STEREO SYNTHESIZER TUNER
KT-76
SERVICE MANUAL

KENWOOD

Metallic cabinet*
(A01-)

Sub panel ass'y
(A22-0664-03)

Panel
(A20-5150-02)

Knob (Button)
(K27-1721-04) x 4

Antenna holder*
(J19-)

Screw terminal board (4P)
(E20-0449-05)

Miniature phone jack
(E11-0165-05)

AC outlet
(E03-0083-05)

Slide switch*
(S31-2115-05)

Power cord bushing
(J42-0083-05)

Foot *
(J02-) x 4

Slide switch*
(S31-2075-05) x 2

Phono jack (2P)
(E13-0217-05)

Slide switch
(S31-2075-05)

AC power cord*
(E30-)
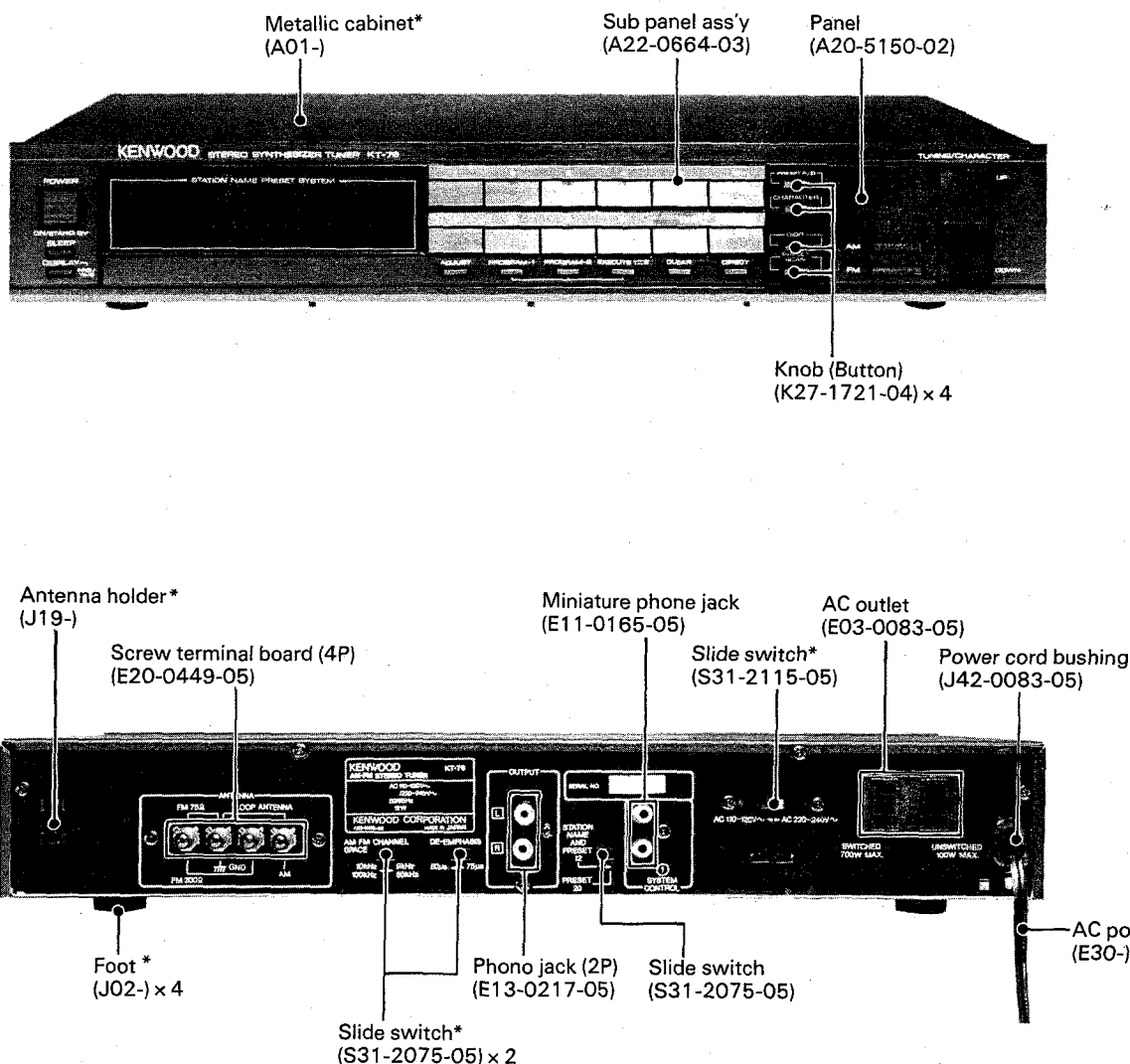
*Refer to parts list on page 28.

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CONTENTS

DISASSEMBLY FOR REPAIR

**Removing the front panel and sub panel**
1. Remove the 3 screws fixing the front panel to the sub panel (❶).
2. Remove the front panel in the direction of the arrow (❷).
3. Remove the 2 screws fixing the sub panel to the chassis (❸).
4. Slightly raise the sub panel to disengage bottom 3 claws. Carefully raise the sub panel in the direction of the arrow (❹) to remove it while paying attention to the fluorescent tube display retaining section.
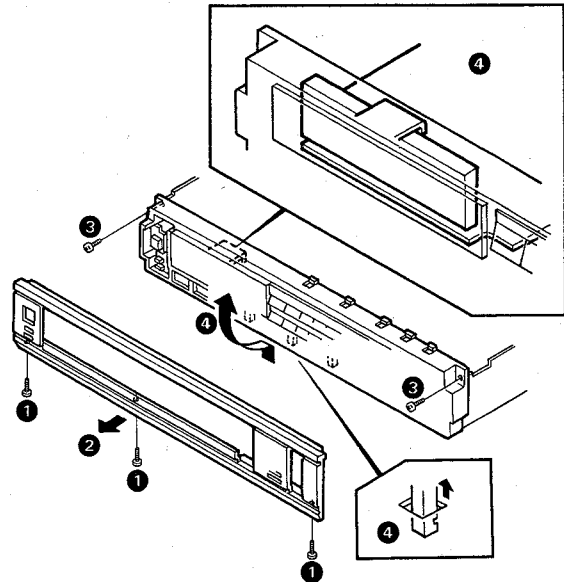
**Removing the Tuner Unit (X05-3290-10) (B/4)**
(This procedure can be carried out without removing the front panel.)
1. Disengage the 5 claws fixing the Tuner Unit (X05-) (B/4) (❶).
2. Remove the Tuner Unit (X05-) (B/4) in the direction of the arrow (❷).
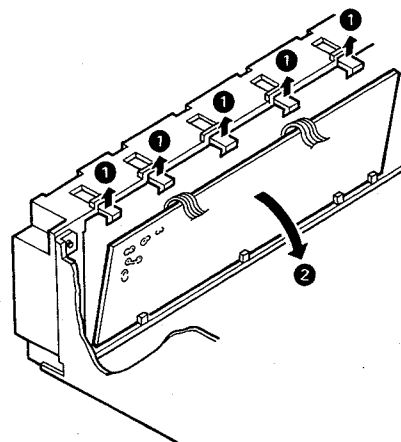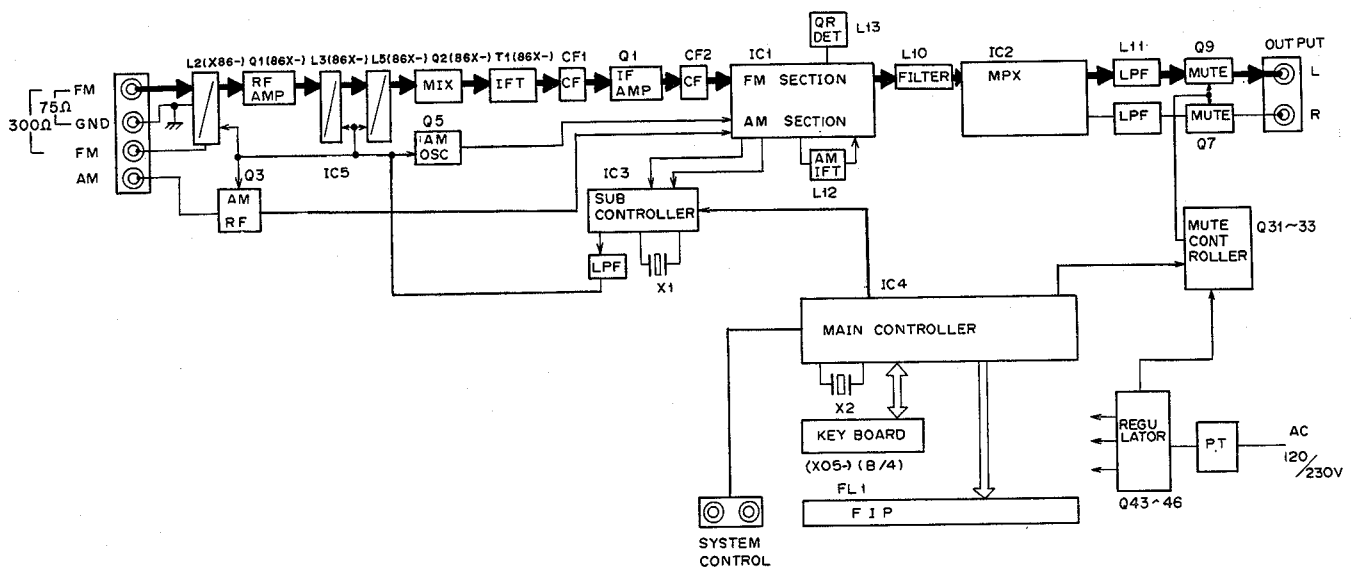
Removing the Tuner Unit (X05-3290-10) (A/4)

1. Remove the metallic cabinet before this operation.
2. Remove the 3 screws fixing the rear panel to the chassis, and remove the 3 screws fixing the Tuner Unit (X05-) (A/4) to the chassis (**1**).
3. Remove the Tuner Unit (X05-) (A/4) together with the rear panel in the direction of the arrow (**2**).
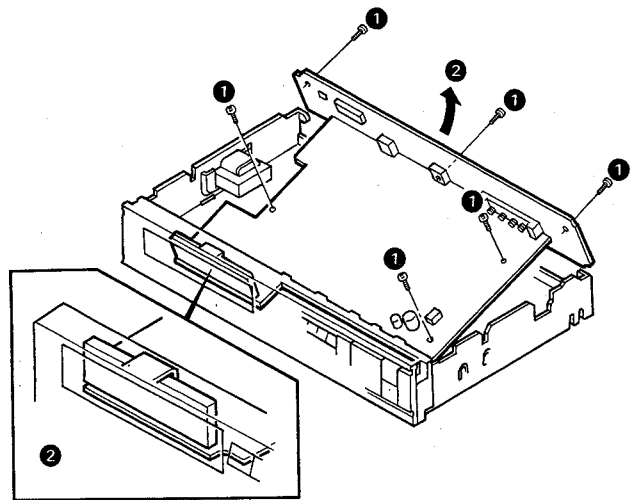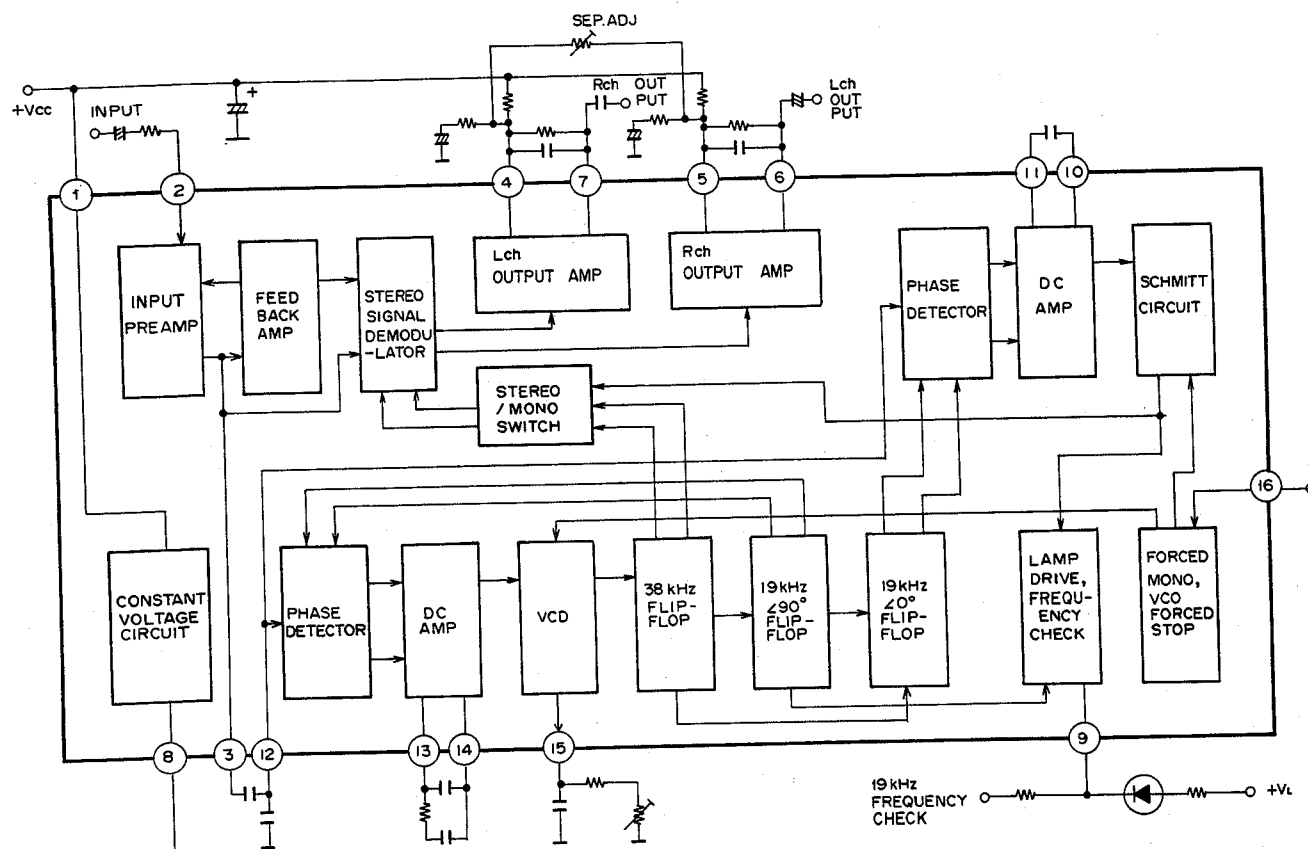
BLOCK DIAGRAM

CIRCUIT DESCRIPTION

Function of components

Tuner unit (X05-3290-10 or X05-3340-10)

| Components	Use/Function	Operation/Condition/Interchangeability
Q1	FM IF amp	10.7 MHz amplifier.
Q2, 3	AM RF switch	LW/MW RF electronic switching.
Q4, 5	AM OSC switch	LW/MW OSC electronic switching.
Q7	Buffer	Impedance switching.
Q8, 9	Muting switch	Muting during function siwtching.
Q10	L.P.F. switch	Time constant switching in LW reception.
Q11, 12	L.P.F.	PLL low-pass filter.
Q13	L.P.F. control	Q10 control. LW position when switched ON.
Q14	Inverter amp	Auto stop control.
Q15, 16	Tuner band switch	FM/AM mode switching.
Q19	AM/FM switch	IC1 mode switching. AM position when switched OFF.
Q31, 32	Muting control	Operates during function switching.
Q33	Muting driver	Operates during function switching.
Q34	Power driver	+12V power supply ON and OFF.
Q35	Inverter amp	Reset control.
Q36	FIP driver	FIP display.
Q37	FIP control	Supplies +5V to Q39 and Q40 when power is turned ON.
Q38	Q36 control	Q36 control with the signal from microcomputer.
Q39	FIP driver	TUNED display.
Q40		STEREO display.
Q41	Preset switch	20-channel preset, 12-channel preset and station name switching.
Q42	Channel switch	FM-AM channel space switching, or LW channel switching.
Q43	Power control	Power ON/OFF control.
Q44	Constant voltage	Stabilization of +12V power.
Q45	Muting control	Muting control when turning power OFF.
Q46	Constant voltage	Stabilization of +5V power, CE control.
IC1	FM/AM system IC	FM IF amplification, detection control. AM MIX, IF amplification, detection control.
IC2	MPX IC	MPX demodulation.
IC3	PLL IC	PLL for electronic tuning.
IC4	Microcomputer	System control.

IC2: AN7470
Equivalent block diagram

SEP.ADJ

+Vcc INPUT

Rch OUTPUT   Lch OUTPUT

(1) (2) (4) (7) (5) (6) (11) (10)

INPUT PRE AMP | FEED BACK AMP | STEREO SIGNAL DEMODU-LATOR | Lch OUTPUT AMP | Rch OUTPUT AMP | PHASE DETECTOR | DC AMP | SCHMITT CIRCUIT

STEREO / MONO SWITCH

(16)

CONSTANT VOLTAGE CIRCUIT | PHASE DETECTOR | DC AMP | VCD | 38 kHz FLIP-FLOP | 19kHz ∠90° FLIP-FLOP | 19kHz ∠0° FLIP-FLOP | LAMP DRIVE, FREQU-ENCY CHECK | FORCED MONO, VCO FORCED STOP

(8) (3) (12) (13) (14) (15) (9)

19 kHz FREQUENCY CHECK   +Vt

Terminal connection and functions

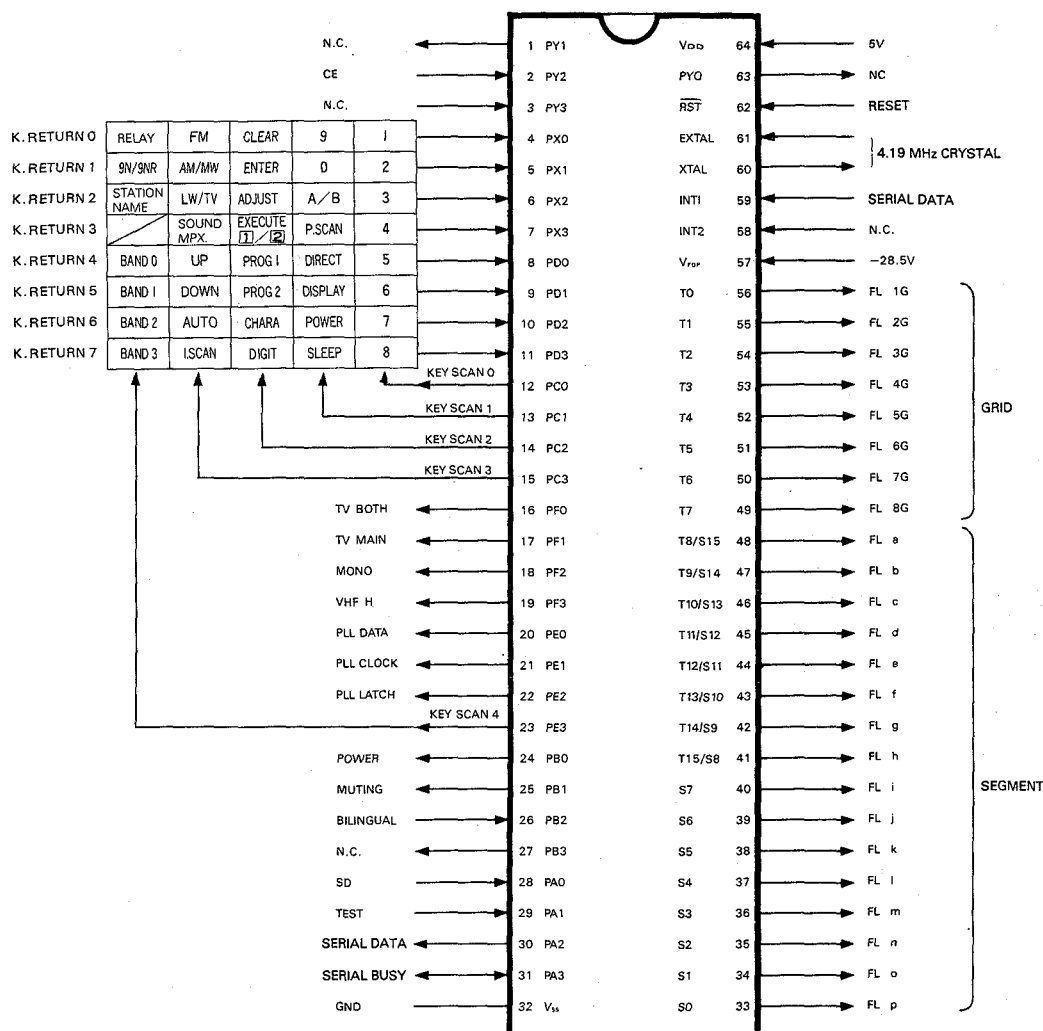| Terminal No.	Connection/Function
1	Supply voltage (+Vcc)
2	Stereo composite signal, input terminal
3	Input preamp, output terminal
4	L CH output amp, feedback terminal
5	R CH output amp, feedback terminal
6	R CH output amp, output terminal
7	L CH output amp, output terminal
8	Grounding terminal
9	Stereo display lamp drive and 19 kHz frequency check terminal
10	Stereo signal detector circuit, low-pass filter terminal
11	Stereo signal detector circuit, low-pass filter terminal
12	PLL circuit, input terminal
13	PLL circuit, low-pass filter terminal
14	PLL circuit, low-pass filter terminal
15	VCO freerun oscillation frequency adjustment terminal
16	Forced mono/forced VCO oscillation stop terminal

IC3: CX7925B
Block diagram and terminal configuration diagram
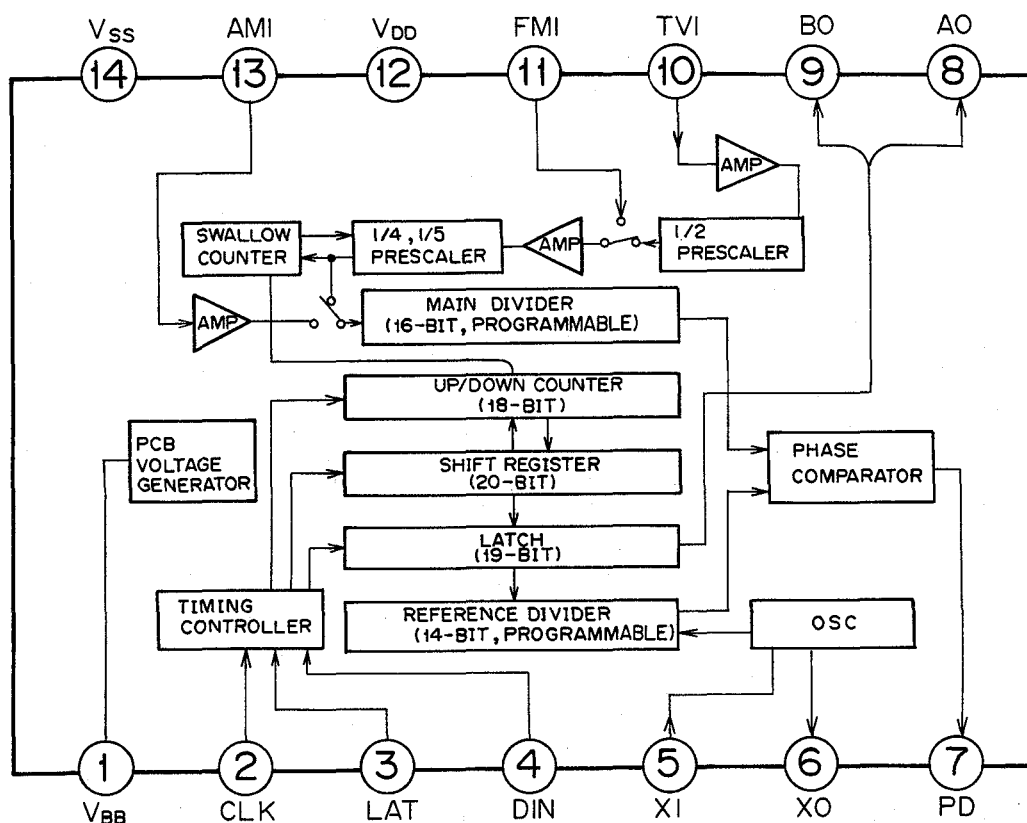
Terminal description

Terminal No.	Symbol	Terminal Description
1	V_{BB}	PCB terminal (Connect a 0.01 μF capacitor between the GND).
2	CLK	Input terminal for the clock used for 20-bit serial data input (Shifted at the rise).
3	LAT	Input terminal for the shift register input data latch signal (shifted at the rise) and, at the same time, for the Up/Down clock (status changed at the rise).
4	DIN	Data input terminal, also the Up/Down mode switching terminal (Up mode with "H" level, Down mode with "L" level).
5	XI	Connection terminals for the reference signal generator X'tal oscillator.
6	XO	(Max. 13 MHz, standard 4.0 MHz)
7	PD	Phase comparator output terminal (3-state).
8	AO	External control signal output terminal/Unlock signal output terminal (E/E MOS push-pull).
9	BO	External control signal output terminal/data check terminal (E/E MOS push-pull).
10	TVI	High-frequency signal input terminal (300 MHz or 350 MHz max.). With 1/2 prescaler.
11	FMI	High-frequency signal input terminal (150 MHz or 180 MHz max.).
12	V_{DD}	Power supply (+5V).
13	AMI	High-frequency signal input terminal (40 MHz or 50 MHz max.).
14	V_{SS}	Grouding terminal.

IC4: CXP5016-196S
Key matrix connection

Key matrix:

	KEY SCAN 0	KEY SCAN 1	KEY SCAN 2	KEY SCAN 3	KEY SCAN 4
K.RETURN 0	RELAY	FM	CLEAR	9	1
K.RETURN 1	9N/9NR	AM/MW	ENTER	0	2
K.RETURN 2	STATION NAME	LW/TV	ADJUST	A/B	3
K.RETURN 3	/	SOUND MPX.	EXECUTE 1/2	P.SCAN	4
K.RETURN 4	BAND 0	UP	PROG 1	DIRECT	5
K.RETURN 5	BAND 1	DOWN	PROG 2	DISPLAY	6
K.RETURN 6	BAND 2	AUTO	CHARA	POWER	7
K.RETURN 7	BAND 3	I.SCAN	DIGIT	SLEEP	8

Pin connections (left side, pins 1–32):

Signal	Pin	Name
N.C.	1	PY1
CE	2	PY2
N.C.	3	PY3
K.RETURN 0	4	PX0
K.RETURN 1	5	PX1
K.RETURN 2	6	PX2
K.RETURN 3	7	PX3
K.RETURN 4	8	PD0
K.RETURN 5	9	PD1
K.RETURN 6	10	PD2
K.RETURN 7	11	PD3
KEY SCAN 0	12	PC0
KEY SCAN 1	13	PC1
KEY SCAN 2	14	PC2
KEY SCAN 3	15	PC3
TV BOTH	16	PF0
TV MAIN	17	PF1
MONO	18	PF2
VHF H	19	PF3
PLL DATA	20	PE0
PLL CLOCK	21	PE1
PLL LATCH	22	PE2
KEY SCAN 4	23	PE3
POWER	24	PB0
MUTING	25	PB1
BILINGUAL	26	PB2
N.C.	27	PB3
SD	28	PA0
TEST	29	PA1
SERIAL DATA	30	PA2
SERIAL BUSY	31	PA3
GND	32	Vss

Pin connections (right side, pins 64–33):

Pin	Name	Signal	
64	VDD	5V	
63	PYO	NC	
62	RST	RESET	
61	EXTAL	4.19 MHz CRYSTAL	
60	XTAL	4.19 MHz CRYSTAL	
59	INT1	SERIAL DATA	
58	INT2	N.C.	
57	Vref	−28.5V	
56	TO	FL 1G	GRID
55	T1	FL 2G	GRID
54	T2	FL 3G	GRID
53	T3	FL 4G	GRID
52	T4	FL 5G	GRID
51	T5	FL 6G	GRID
50	T6	FL 7G	GRID
49	T7	FL 8G	GRID
48	T8/S15	FL a	SEGMENT
47	T9/S14	FL b	SEGMENT
46	T10/S13	FL c	SEGMENT
45	T11/S12	FL d	SEGMENT
44	T12/S11	FL e	SEGMENT
43	T13/S10	FL f	SEGMENT
42	T14/S9	FL g	SEGMENT
41	T15/S8	FL h	SEGMENT
40	S7	FL i	SEGMENT
39	S6	FL j	SEGMENT
38	S5	FL k	SEGMENT
37	S4	FL l	SEGMENT
36	S3	FL m	SEGMENT
35	S2	FL n	SEGMENT
34	S1	FL o	SEGMENT
33	SO	FL p	SEGMENT

Functions of diodes and switches

(0: Without diode,   1: With diode)

Destination Type	Set Switches				Band	Receiving Frequency Range	Inter-Channel Space	Intermediate Frequency	PLL Reference Frequency	PLL Input Terminal	Auto Tuning
	B3	B2	B1	B0							
K	1	0	0	0	FM	87.5 MHz ~ 108.0 MHz	100 kHz	+10.7 MHz	50 kHz	FMI	O
					AM	530 kHz ~ 1610 kHz	10 kHz	+450 kHz	10 kHz	AMI	O
E1	1	*1	0	0	FM	87.5 MHz ~ 108.0 MHz	50 kHz	+10.7 MHz	50 kHz	FMI	O
					AM	531 kHz ~ 1602 kHz	9 kHz	+450 kHz	9 kHz	AMI	O

* The KT-76 Types M, U and UE are modified into Types E or K by switching the inter-channel space with the CHANNEL SPACE SW (S31) on the rear panel and by adding a diode (ISS133) for BAND 2.
Before switching, turn the AC off (by pulling out the power plug), switch the switch, and turn AC on again.
If the AC power is left ON, switching the switch does not change the destination.

9N/9N+2

This switch (S31) is used to select the stopping frequencies in the LW auto tuning. The switch is valid only with the KT-550L Types T and E.

The LW band frequencies are scanned up/down by stopping at 1 kHz intervals in both manual tuning and auto tuning. However, in auto tuning only, this switch allows to set the stopping frequencies as shown below (as long as there are tuned-in stations at these frequencies). This switch is switchable at any time.

9N/9N+2	Stopping Frequencies
0	153, 162, 171, 180, ...270, 279 kHz
1	155, 164, 173, 182, ...272, 281 kHz

Station name/Time display switch

This switch allows to select if the display shows station names or the present time. Bofere switchng this switch, turn AC power off. Switching this switch with AC power on will not change the setup. When this switch is switched, all memory contents (preset channels timer, clock, etc.) are cleared.

Station Name On/Off SW	Station Name Display	Number of Preset Channels
0	ON	6 in each of A/B, total 12
1	OFF	10 in each of A and B, total 20

Operation of microprocessor IC4 at power ON

When voltage V_{DD} at pin pin ⑥④ (power supply) of IC4 is rises at power ON and the reset signal at pin ⑥② differentiated by CE signal (Chip Enable signal) at pin ② rises to half of V_{DD}, the clock starts. When the reset signal lowers to half of the V_{DD}, the microprocessor starts operating and the unit is set to normal operation mode.

Terminal description

Terminal No.	Symbol	Name	I/O	Function			
1	PY1	N.C.	O	Not used. On the PC board, make it capable of being pulled up using a resistor.			
2	PY2	C.E.	I	Backup (AC OFF) detection terminal. When L level is detected, the backup condition is set and the clock is stopped. Note: The rise from L to H shall be faster than the rise of reset.	H: AC ON L: AC OFF		
3	PY3	N.C.	I	Not used. Pull down with the GND or a resistor.			
4-11	PX0 ~ PD3	KEY RETURN 0 ~ 7	I	Key return input. All pulled down (10k to 100k).	H: AC ON L: AC OFF		
12 ~ 15	PC0 ~ PC3	KEY SCAN 0 ~ 3	O	Key scanning signals.			
16	PF0	TV BOTH	O	TV bilingual multiplexed audio mode control terminals.	Mode \ Port	PF0	PF1
17	PF1	TV MAIN	O		MAIN	L	H
					SUB	L	L
					BOTH	H	L
18	PF2	MONO	O	Mono/Auto stereo control terminal. Permanently L during TV bilingual reception.	H: MONO L: AUTO STEREO		
19	PF3	VHF H	O	Band selection control terminal. Selects the band by the combination with A0 and B0 of PLL IC.	Band \ Port	A0	B0	PF3
				FM	H	L	L
				AM	L	H	L
				LW	H	H	L
				VHF L	H	H	L
				VHF H	H	H	H
				UHF	L	L	L
20	PE0	PLL DATA	O	PLL IC data output. Connected to CX7925B DIN terminal.			
21	PE1	PLL CLOCK	O	PLL IC clock output. Connected to CX7925B CLK terminal.			
22	PE2	PLL LATCH	O	PLL IC latch output. Connected to CX7925B LAT terminal.			
23	PE3	KEY SCAN 4	O	Key scanning signal.			
24	PB0	POWER	O	Relay control terminal.	H: POWER ON L: POWER OFF		
25	PB1	MUTING	O	Muting control during band switching, frequency scanning, etc.	H: MUTE ON L: MUTE OFF		
26	PB2	BIL	I	Bilingual signal input during multiplexed audio reception.	H: BILINGUAL L: NORMAL		
27	PB3	N.C.	O	Not used. Open or pulled down.			
28	PA0	SD	I	Stop signal input for auto tuning.	H: TUNE L: POWER OFF		
29	PA1	TEST	I	Test mode setting input.	H: NORMAL L: TEST		
30	PA2	SDATA	O	System control DATA output.			
31	PA3	SBUSY	I/O	System control BUSY input/output.			
32	VSS			GND terminal.			
33 ~ 48	S0 ~ S15		O	FL segment drive terminals. Pull-down resistors are incorporated with masked devices.			
49 ~ 56	T7 ~ T0		O	FL grid drive terminals. Pull-down resistors are incorporated with masked devices.			
57	VFDP			FL -ve power supply (–28.5V).			
58	INT2		I	Not used. Connected to VDD.			
59	INT1	DATAI	I	System control DATA input.			
60 ~ 61	ETAL EXTAL			Clock oscillator terminals. X'tal 4.194304 MHz.			
62	RST	RESET	I	Reset signal input.	H: NORMAL L: RESET		
63	PY0		O	Not used. Open. (On the PC board, make it capable of being pulled up).			
64	VDD			+B terminal (5V).			

KT-76

Test mode

1. Setting Test Mode

   To enter the test mode, reconnect AC power cord while the microprocessor's TEST port (pin 29) is connected to GND.

2. Contents of Test Mode

   (1) Display

   When AC power is turned ON in step 1, all FL segments go on except "STEREO", "TUNED" and "BILINGUAL".

   These three indicators are lit by the tuner circuitry, and has no relationship with the test mode operated at preset. To return the display to the normal display, press the POWER switch.

(2) Test Point Setting

At the same time as the display in (1), the frequencies listed on the attached sheet are stored automatically in the tuner's preset memory.
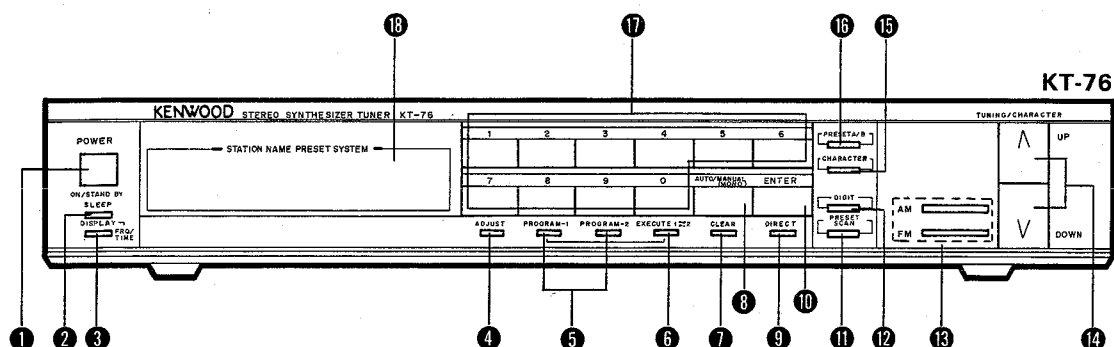
In the test mode, 20 stations are preset without station name display, regardless of the STATION NAME switch setup.
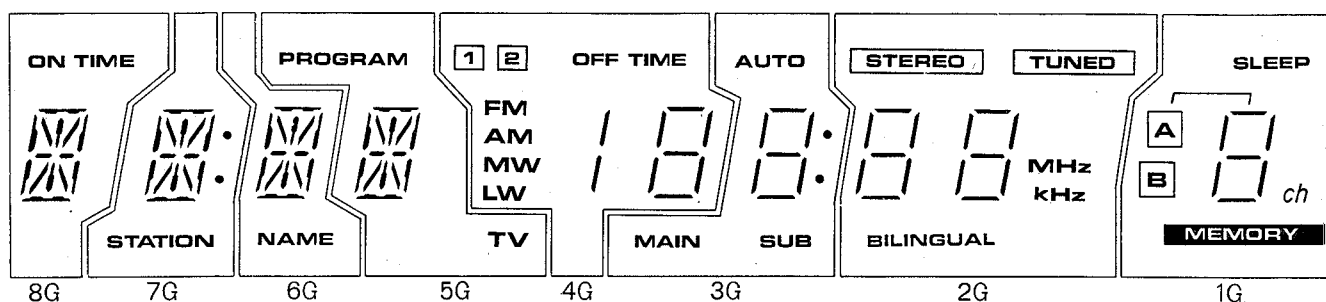
Memory clear method

1. Turn AC power on while depressing the CLEAR button. This clears all memory contents (preset stations, timer and clock) regardless of the backup condition setup.

CONTROLS

❶ POWER switch
❷ SLEEP TIMER button
❸ DISPLAY FRQ/TIME button
❹ ADJUST button
❺ PROGRAM 1, 2 button
❻ EXECUTE 1 ⇆ 2 button
❼ CLEAR button
❽ TUNING MODE button
❾ DIRECT tuning button

❿ ENTER button
⓫ PRESET SCAN button
⓬ DIGIT button
⓭ Band selector buttons
⓮ TUNING button
⓯ CHARACTER button
⓰ PRESET A/B switch
⓱ PRESET buttons (1 – 0)

OPERATING INSTRUCTIONS

Setting the current time

1. Confirm that the DIGITAL FREQUENCY COUNTER is in the time display mode.
   When the DIGITAL FREQUENCY COUNTER is in the frequency display mode, press the POWER switch.
2. Press the ADJUST button.
   The hour display of the left starts flashing.
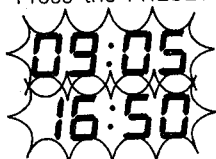
```
(0):0 0
```
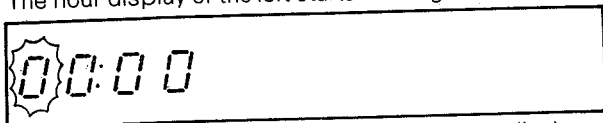
When the station name is not displayed.

3. Input the current time using the PRESET buttons (1 to 0).
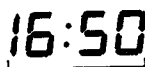   The clock employs 24-hour system. Press the PRESET buttons as follows.

AM 9:05   Input in the order of 0–9–0–5

PM 4:50   Input in the order of 1–6–5–0

```
09:05
16:50
```

When 4 digits are input, the entire time display flashes. To change the input digit, press the CLEAR button and proceed the above steps again.

4. Press the ENTER button
   The time display illuminates.

```
16:50
```

Illuminates.

When the ENTER button is pressed, the clock starts. Press the ENTER button according to the time signal of the radio or telephone service.

Note: ─────────────────────────
When the time display flashes, this indicates the power failure occurred. At that time, reset the current time.

Listening to broadcasts

Auto tuning
1. Press the POWER switch.
2. Set the input mode of the amplifier to tuner.
3. Select the reception band with the band selector buttons.
4. Press the TUNING MODE button so that the AUTO indicator lights.
5. Press UP or DOWN side of the TUNING button.
   The unit starts scanning in the specified direction and stops at a station with a sufficient signal strength.
6. Adjust the volume control of the amplifier.

Manual tuning
1. Press the POWER switch.
2. Set the input mode of the amplifier to tuner.
3. Select the reception band with the band selector buttons.
4. Press the TUNING MODE button so that the AUTO indicator disappears. In the FM band, the MONO indicator lights.
5. Press UP or DOWN side of the TUNING button until the desired station is received.
   When the TUNING button is kept pressed, the displayed frequency changes rapidly.
6. Adjust the volume control of the amplifier.

Direct station tuning
1. Press the DISPLAY button to set the display window to the frequency mode.
2. Select the desired band with the band select butotn (AM/FM).
3. While the frequency indicator is displayed, press the DIRECT button.

4. Input the number of the frequency with the PRESET buttons.
5. When the input frequency is within the range of the band, the station of the input frequency is received immediately after the final column is input.
   If the input frequency is out of the range of the band, the frequency indicator flashes for 5 senconds and error indication is displayed, then the display mode before pressing the DIRECT button resumes.
6. During inputting the frequency, when the incorrect PRESET buttons is pressed by mistake and is noticed, press the CLEAR button to return to the standby mode for the first column input.

Presetting stations

With the station name displayed, a total of 12 stations can be preset, and with the station name not displayed, a total of 20 stations can be preset for AM or FM broadcast. (Select the number of preset stations with the STATION NAME AND PRESET select switch located on the rear panel of the tuner.)

1. Press the DISPLAY button to set the display to the frequency display mode.
2. Press the AM or FM band select key.
3. Receive the desired station to be memorized with the TUNING button or DIRECT tuning function.
   At this time, input the station name if required, referring to "Station Name Indication" on page 9. (This operation is possible after memorizing the frequency.)
4. Press the ENTER button.
   "MEMORY" displays in the display window.
5. Select the A or B preset group with the PRESET A/B switch.
   When this is not done, the preset group which is currently indicated is selected.
6. Within 5 seconds, press any of 1 to 6 numeric keys (when the station name is displayed) or 1 to 0 keys (when the station name is not displayed).

   The MEMORY indicator in the display window goes off and the preset indiator will light.
   In the same way, preset the other stations. When presetting the station into the "10" preset indicator, press the "0" preset button.

STATION NAME AND PRESET switch located on the rear panel of the tuner
▭▪: When the station name is not displayed (10 stations for each A and B)
▪▭: When the station name is displayed (6 stations for each A and B)

```
STATION
NAME
AND
PRESET  [▮▯]
  12
       └──◂▸
PRESET  ┘
  20
```

Note: ─────────────────────────
1. When the station is memorized into the preset number in which another station has been preset, the previously-preset station will be cleared and the newly-preset station will be memorized.
   Be sure to press the preset button (1 to 0) after releasing the ENTER key.
   If the preset button (1 to 0) is pressed while the ENTER key is pressed, the same frequency may also be memorized into the other preset button.
2. In the station name display mode (when the STATION NAME AND PRESET switch on the rear panel is set to "12" position), the 7 to 0 preset buttons are invalid.
3. Operate the preset station number switch on the rear panel after plugging out the power cord from the AC outlet.
4. If you perform the above operation after you have once preset the tunning station, the preset contents will be erased.

Preset memory

For presetting broadcast stations, a total of 12 stations can be preset when the station name is displayed, or a total of 20 stations can be preset when the station name is not displayed for all bands randomly.
Up to 6 stations or 10 stations can be preset for each A and B and B group

How to preset

1. Receive the desired station to be memorized with the UP/DOWN button or using the direct tuning functin.
2. Input the station name when the station name display is required. (This operation is possible after memorizing the frequency.)
3. Press the ENTER button. (This is valid only when the frequency is displayed.)
4. Select the A or B preset group with the PRESET A/B switch.
   When this is not done, the preset group which is currently indicated is selected.
5. Press any of the 1 to 6 (when the station name is displayed) or 1 to 0 (when the station name is not displayed) buttons.

   Example: To memorized 90.0 MHz into A-3 channel
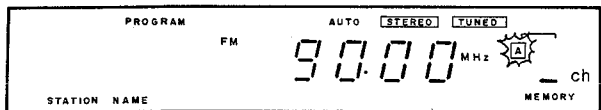   (station name display mode)

1. Receive the desired station with the UP/DOWN button or DIRECT button.
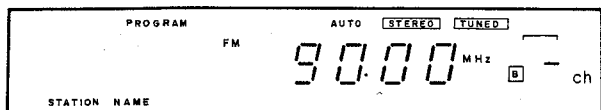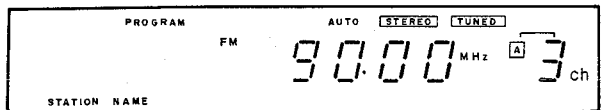
2. Press the ENTER button on. "MEMORY" lights.
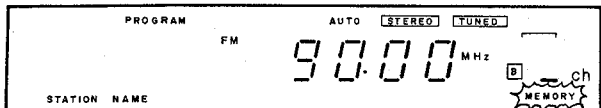
3. Press the Preset A/B switch once to indicate "A".

4. Press "3" button on. "MEMORY" goes off, and "3" lights.

■ Recalling the Preset Memory

During the tuner functions, select "A" or "B" with the A/B select switch and press any of the PRESET buttons. The memorized contents corresponding to the PRESET number pressed will be displayed.
When the A/B switch is not pressed, the memorized contents corresponding to the PRESET button of the currently selected group will be recalled.
However, when the station name display mode is selected, four "7" to "0" Preset buttons do not function.

   Example: During receiving the "FEN AM 810 kHz" in A-1 preset channel, to recall"CX FM 101 MHz" of A-5 preset

1. During preset A-1: AM 810 MHz reception
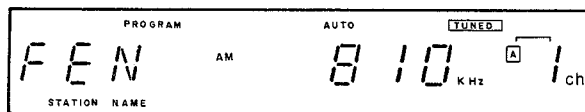
2. Press "3" button on.
   "FM 101 MHz" memorized in A-5 channel is received
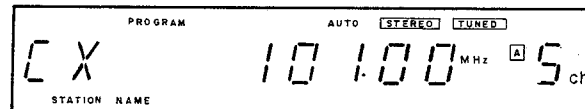
Preset scan

During the tuner is functioning, when the PRESET SCAN button is pressed, each preset frequency will be received for 5 seconds sequentially.
If no station is preset in the preset channel, the next preset channel will be received after one second.
When any of theparesety channel is currently received, teh scanning starts from the next preset channel. If not, scanning will start from the A-1 preset channel.

→ A-1 → A-2 ----- A-9 → A-0 → B-1 → B-2 ---- B-9 → B-0 →

To release this function, press the PRESET SCAN button again.

Preset station tuning

1. Press the PRESET A/B switch to select A or B.
2. Press any of 1 to 0 PRESET buttons.
   The broadcast station which is preset into the PRESET button pressed will be received.

Note:

1. Since the plug-in backup system is provided with this tuner, the station frequencies preset in each PRESET button will not be cleared even when the POWER switch is set to the STAND BY position.
   However, when the AC power plug is disconnected frm the AC outlet, the preset frequencies will be cleared approx. 3 days later.
2. When the station name display mode is selected, the "7" to "0" PRESET buttons are invalid.

Last channel memory

When the POWER switch is turned On, or when the broadcast band (AM or FM) is changed to another, the last received channel of each band will be received. (Last channel memory function)

■ Station Name Indication (Station Name Preset)

Set the select switch located on the rear panel of the tuner to the STATION NAME PRESET 12 position.

Character input procedure

1. Tune to the desired station with the TUNING button or the DIRECT tuning method.
   When the desired station has been preset, call the station with the corresponding PRESET A/B switch and PRESET buttons.

2. Press the CHARACTER button to set the character input mode. The first column of the character display section begins flashing.
3. Turn the TUNING knob to select the character.
4. When the desired character is displayed, press the DIGIT button.
   Flashing will shift to the next column.
5. Repeat precedure 3 and 4 for four times to complete inputting. The character input mode will be released.
● When the incorrect character input by mistake and is noticed, press the CLEAR button to return to the standby mode for the first clumn input.
● Even in the middle of inputtig, pressing the CHARACTER key again will release the character input mode. At this time, the data which has been input is valid.
● When the preset channel to be named is being received, the character data will be automatically stored in the currently-displayed preset channel after inputting operation is completed.

Note:
1. Disconnect the power plug of the tuner from the AC outlet before changing the setting of the select switch for the number of preset stations.
2. When the above operation is performed after the broadcast station has been preset, the preset contents will be cleared.

Example 1: To receive the 90.0 MHz FM broadcast and input the characters "C, B, E" when the station other than the preset channel memories is received. Shows the indicator flashing.

1. Tune to 90.0 MHz FM broadcast.
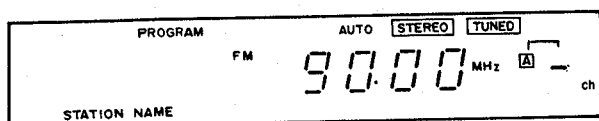
2. Press the CHARACTER button.
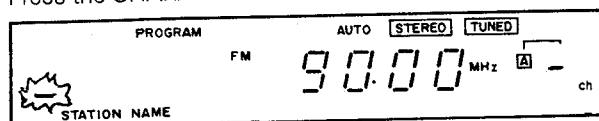
3. Press the TUNING UP button three time to select "C".

_ → A → B → C
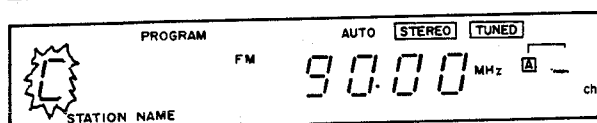
4. Press the DIGIT button.
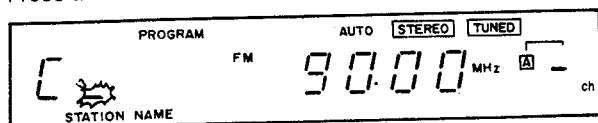
5. TUNING UP button twice times to select "B".

_ → A → B
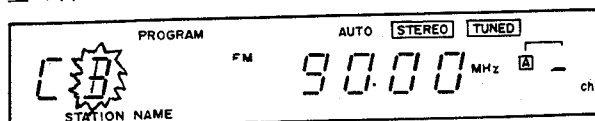
6. Press the DIGIT button.
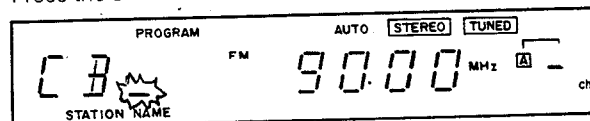
7. TUNING UP button five times to select "E".

_ → B → C → D → E
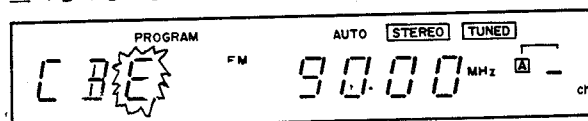
8. As the fourth column should be left blank, press the DIGIT button twice or press the CHARACTER button.
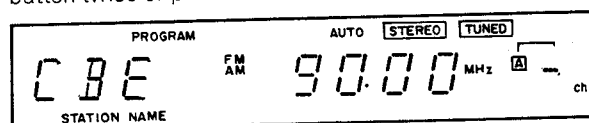
* After inputting is completed, memorize it into the desired preset channel according to the "Preset Station Tuning" section.

Example 2: To change the station name from "FHN8" for 810 kHz AM broadcast memorized in B-2 preset channel to "FEN".

1. Recall the B-2 preset channel with the PRESET A/B switch and the PRESET button according to "Recalling the Preset Memory".
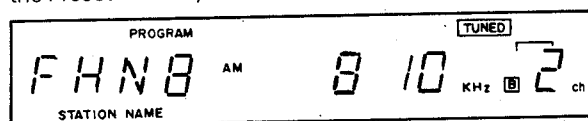
2. Press the CHARACTER button.
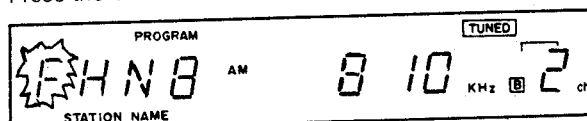
3. Press the DIGIT button to shift the flashing character to the next column since the first character "F" should be left as it is.
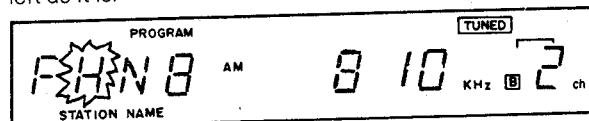
4. Press the TUNING (DOWN) buttno to select "E".

H → G → F → E

5. Press the DIGIT button twice.

13
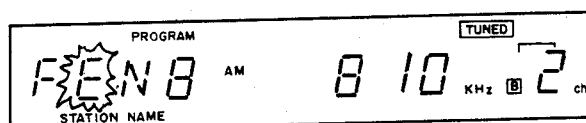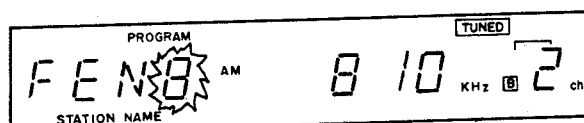
6. Press the TUNING button to select a blank.

```
        PROGRAM                              TUNED
  F E N          AM      8  I0          r7
                                   KHz B  c
        STATION NAME                          ch
```
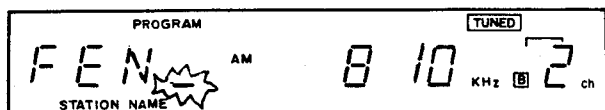
7. Press the DIGIT button or press the CHARACTER button.

```
        PROGRAM                              TUNED
  F E N          AM      8  I0          r7
                                   KHz B  c
        STATION NAME                          ch
```
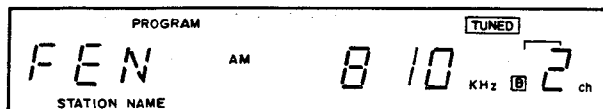
Operating timer

Setting the program timer

● Timer Setup Procedure (The same procedure can be used for both Program 1 and Program 2.)

The timer can be set only when the POWER switch has been turned ON. When power is OFF, it is possible only to check the program contents.

During setup, the station which has been received is not changed, and the AUTO, BAND, MAIN and SUB indications remain the same.

Example 1. To set a Preset channel (B-2) in Timer 1 with On Time 8 : 45 and Off Time 9 : 35

1. Current Condition
Reception of FM 90.0 MHz stored in A-3.

```
        PROGRAM          AUTO  STEREO  TUNED
                    FM
                       90.00       A
                                   MHz      3
        STATION NAME                          ch
```
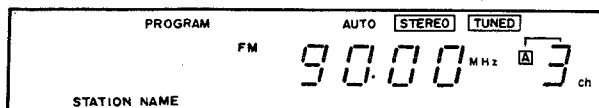
2. Displaying PROGRAM
Press the Program 1 (PGM-1) key.

```
  ON TIME    PROGRAM 1   OFF TIME  AUTO  STEREO  TUNED
                    FM
    0.00          0.00        A   /
                                             ch
                                        MEMORY
```
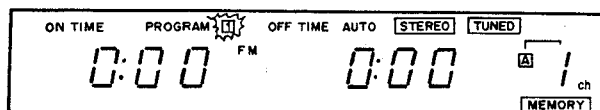
When the PGM-1 key is pressed, the "1" indicator flashes and the display shows the content of Program Timer 1.

The above display continues for approx. 5 seconds. During this period, press the ENTER key during to enter the Timer Setup mode.

When the PGM-1 key is pressed during this display period, the previous returns to the previous status.

3. Starting Setup
Press the ENTER key.

```
  ON TIME    PROGRAM 1   OFF TIME  AUTO  STEREO  TUNED
                    FM
    0.00          00.00       A   /
                                             ch
```
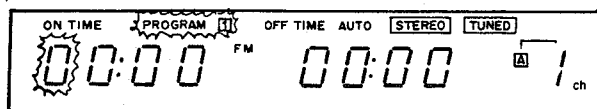
When the ENTER key is pressed, the "PROGRAM 1" indicator flashes to indicate that the Timer Setup mode. At the same time, the first digit of the ON TIME display starts to flash, indicating the entry standby for this digit.

If you find it unnecessary to change the current ON TIME, just press the ENTER key; you can then start the entry of the OFF TIME.

4. Entry of ON TIME
Press numeric key "0".

```
  ON TIME    PROGRAM 1   OFF TIME  AUTO  STEREO  TUNED
                    FM
    0000          00.00       A   /
                                             ch
```
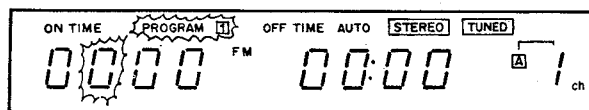
When "0" is pressed, the first digit of the ON TIME display goes "0" which is lit continuously, and the second digit starts flashing. When you made a mistake in entry, press the CLEAR key; the display returns to the stage of entry standby for the first digit.

5. Entry of ON TIME Using 10 Numeric Keys
Enter "8", "4" then "5". Press these numeric keys within 15 seconds.

```
  ON TIME    PROGRAM 1   OFF TIME  AUTO  STEREO  TUNED
                    FM
    08.45          00.00       A   /
                                             ch
```
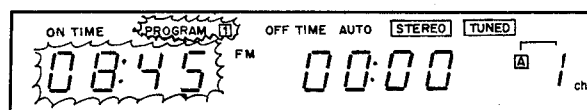
When four ON TIME digits have been entered, all the ON TIME digits flashes to indicate the end of ON TIME entry.

If the setup is correct, press the ENTER key.

If the desired ON TIME is obtained by entering until the third digit, press the ENTER key after the third digit. To modify the ON TIME entered, press the CLEAR key; the display returns to the stage or entry standby for the first digit.

6. Setting of ON TIME
Press the ENTRY key.

```
  ON TIME    PROGRAM 1   OFF TIME  AUTO  STEREO  TUNED
                    FM
    08.45          00.00       A   /
                                             ch
```
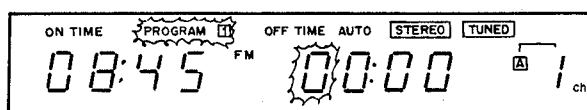
When the ON TIME entry is finished, the ON TIME display lights continuously and the first digit of the OFF TIME display starts to flash, indicating the entry standby for this digit. If you found entry mistake at this time, press the CLEAR key; the display returns to the stage of entry standby for the first digit.

7. Entry and Setting of ON TIME
Press numeric keys "0", "9", "3" then "5", and press the ENTER key.

```
  ON TIME    PROGRAM 1   OFF TIME  AUTO  STEREO  TUNED
                    FM
    08.45          09.35       A
                                             ch
```
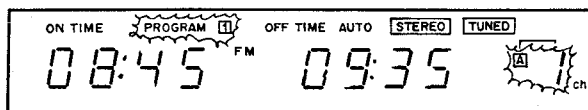
When the ENTER key is pressed, the OFF TIME display lights continuoulsy, indicating the end of OFF TIME entry. In its place, the preset channel display starts flashing to indicate the standby for preset channel entry. If you found entry mistake at this time, press the CLEAR key; the first press returns the display to the stage of entry standby for the OFF TIME first digit, and the second press returns it to the stage of entry standby for the ON TIME first digit again.

8. Entry of Preset Channel
Select the preset channel group by pressing the PRESET A/B key, then press numeric key "2".

```
  ON TIME    PROGRAM 1   OFF TIME  AUTO  STEREO  TUNED
                    FM
    08.45          09.35       B   2
                                             ch
```
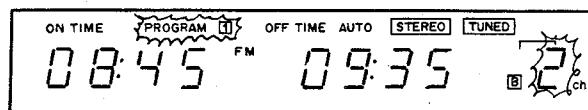
When the PRESET A/B key is pressed, the other indicator that the currently-flashing indicator lights (A→B, or B→A). When the numeric key is pressed, the figure of the preset channel changes to that pressed. If you found entry mistake at this time, press the CLEAR key; the display returns to the status before the PRESET A/B key was pressed.

9. End of Timer Setup
Press the ENTER key.

```
ON TIME    PROGRAM 🔢   OFF TIME  AUTO  STEREO  TUNED
 0 8:4 5  FM   0 9:3 5      ⒷⒸch
```
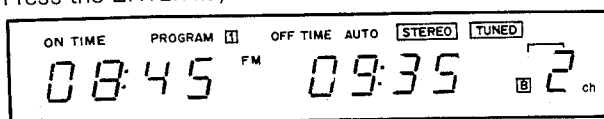
When the preset channel number has been entered, press the ENTER key.
The preset channel and PROGRAM indicators light continuously, indicating the end of timer setup. The above display continues for approx. 5 seconds, and the display returns to the initial status.

Notes:
● If the PGM-1 key is pressed during timer setup operation, the timer setup mode is canceled and the display returns to the initial status.
● When the station name display is applied, it is possible to select preset channels 1 to 6 for both A and B.

Using the program timer

Timer program 🔢 execution mode	→	Timer program ② execution mode	→	Both timer programs 🔢 and ② execution mode	→	Both timer programs 🔢, ② non-execution mode
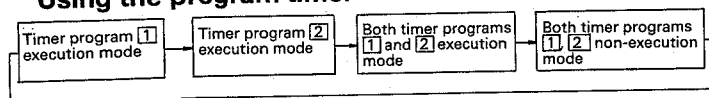
1. Press the POWER switch so that the unit is in the standby mode.
2. Press the EXECUTE 1 ⇌ 2 button to select the program timer to be used.
   To use program timer 1 or 2, press the EXECUTE 1 ⇌ 2 button so that the PROGRAM 1 or 2 indicator light.
3. When the preset on time is reached, the program timer turns on and the selected preset station is received.
4. When the preset off time is reached, the program timer turns off.

To function timer program 1, 2

Press the EXECUTE 1 ⇌ 2 button display the timer program 🔢 or ② indicator.

Note:
With both Timer 1 and 2 programmed, when the Timer 1 is executed, the Timer 2 will not function. Also when the Timer 2 is executed, the Timer 1 will not function.

To cancel the program timer

Press the EXECUTE 1 ⇌ 2 button so that the PROGRAM 1 and/or 2 indicator goes off.

To check the contents of timer program

1. Press the PGM-1 or PGM-2 key in which the program to be checked is input. The contents of the selected program is displayed for 5 seconds.
2. Then the display before the key is pressed resumes.
   Even in the STAND BY mode (when only the time is displayed), pressing PGM-1 or PGM-2 key will display the program contents for 5 seconds, then the time display will resume.
   Setting the timer is possible only when the POWER switch is turned ON. When the POWER is OFF, only the program contents can be checked.

Notes on using program timer

● The program timer can be used only when the unit is in the standby mode.

● The unit should be set to standby mode before the preset program timer on time.
● If the EXECUTE 1 ⇌ 2 button or POWER switch is operated between preset timer on time or off time, the program timer may not function correctly.
● Two settings of the program timer 1 and 2 should be at different times.

Notes:
1. The timer program functions only when the Timer 🔢 or ② indicator lights.
2. When the PROGRAM key is pressed or the POWER switch is pressed ON/OFF during the timer is activated, the program timer will not function correctly.
3. Be sure not to overlap the times when setting the programs 1 and 2. (Refer to the exapmle in the figure on the right.)
   ● When both 1 and 2 programs are input, the program 2 has a priority.
   ● When the ON-time for the program 1 reaches during the program 2 is activated, the program 1 does not function.
   ● When the ON-time for the program 2 reaches during the program 1 is activated, the program 2 begins functioning.
4. When functioning both programs 1 and 2 sequentially, be sure to leave 1 minute between the OFF-time of the first program and the ON-time of the second program.
   Example: When receiving 90.00 MHz FM broadcast for one hour from 8 o'clock and 954 kHz AM broadcast for one hour from 9 o'clock, set the ON-time for the program 1 to 8 : 00 and the OFF-time to 8 : 59, and set the ON-time for the program 2 to 9 : 00 and the OFF-time to 9 : 59.
5. When the timer function is activated. The same operation will be performed on the same times every day. When the timer operation is not required, release the timer function according to "To Deactivate the Timer Function".
6. On listening to the tuner with the timer function activated (when the Timer 🔢 or ② indicator lights), when the set time comes, the timer operation will function.
   At this time, the receiving station will be changed to the station which has been programmed for the timer. When recording the broadcast from the tuner, be sure to confirm the programmed contents of the timer.
7. The programmed contents of the timer cannot be cancelled. When the timer is not used, be sure to release the timer function according to "To Deactivate the Timer Function".

Using the sleep timer

The sleep timer can be use to turn the power off after up to 60 minutes. The power off time can be set with an interval of 10 minutes.

1. Press the SLEEP button.
   The SLEEP indicator lights and 60 is displayed.
2. To turn the power off within 60 minutes, press the SLEEP button.
   The displayed number changes as follows.

```
POWER                                    POWER
 ON                                       OFF
 →60 →50 →40 →30 →20 →10 → 0 →
```
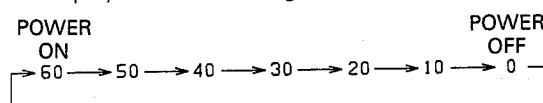
Notes:
● The sleep timer has priority over the program timer.
● When the remaining time or the SLEEP TIMER is displayed, pressing any of the PRESET buttons, TUNING button, BAND select button, etc. will display the frequency, then 5 secnds later, the remaining time display resumes.
● When the remaining time is within 10 minutes, pressing the SLEEP button will turn the power OFF.
● To release the SLEEP TIMER, press the POWER switch to turn the power OFF.
● When the time is not set, the SLEEP TIMER is not displayed.

ADJUSTMENT/REGLAGE/ABGIEICH

75 Ω/300 Ω
Antenna adaptor
Adaptateur d'antenne
Antennenadapter

Dummy antenna
Antenna fictive
Kunstantenne

(A) AG — FM-SG

(C) AG — FM-MPX — FM-SG

(D) AM-SG

AC voltmeter
Voltmètre CA
Klirrfaktormesser

(B)

Oscilloscope
Oscilloscope
Oszilloskop

Distortion meter
Distorsionmètre
Wechselspannungsmesser
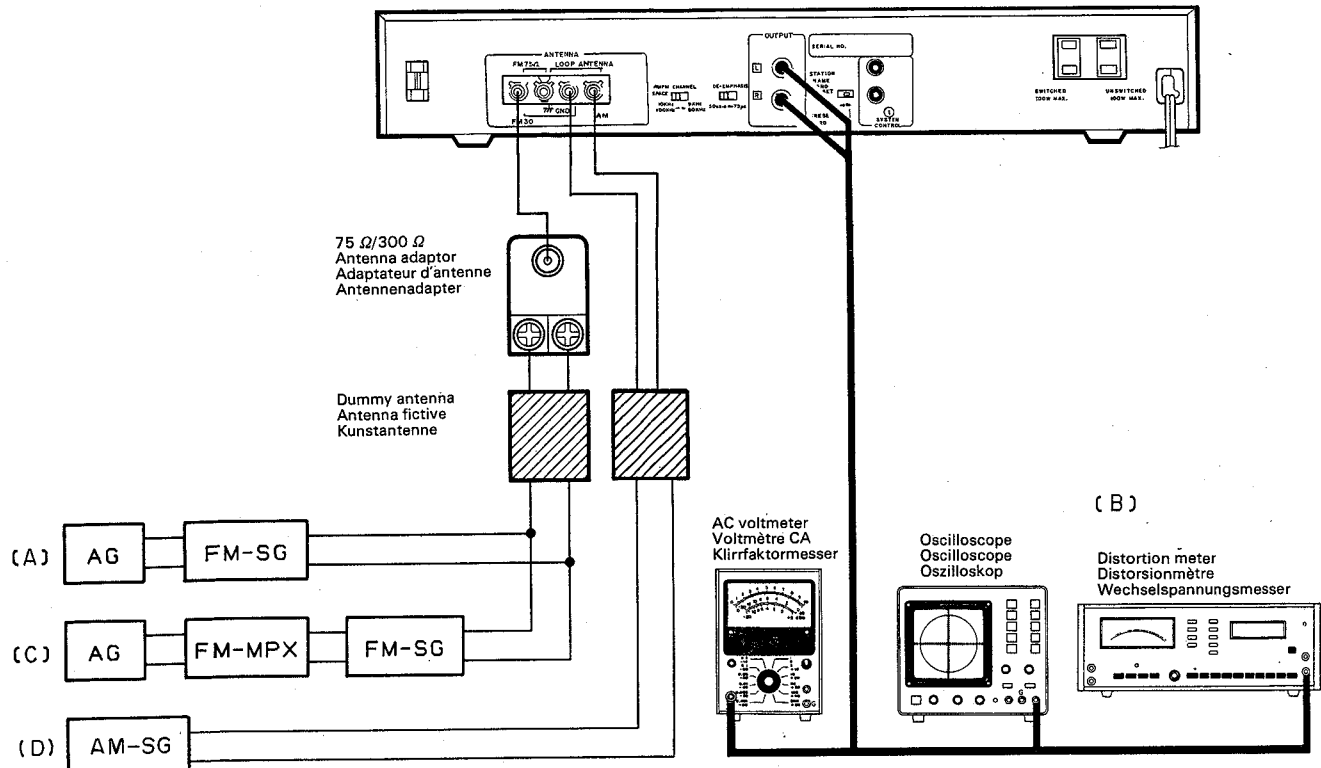
ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION		Unless otherwise specified, the individual switches should be set as following: SELECTOR: FM MODE: FM MODE/AUTO					
1	BAND EDGE (1)	—	Connect a DC voltmeter between TP20(VT) and TP26(GND).	87.5MHz	L7 (Front end)	2.5V	(a)
2	BAND EDGE (2)	—	Connect a DC voltmeter between TP20(VT) and TP26(GND).	108.0MHz	TC1 (Front end)	8.0V	(a)
		Repeat alignments 1 and 2 several times.					
3	RF ALIGNMENT	(A) 98.0MHz 1kHz,±75kHz dev	(B)	MONO 98.0MHz	L2,3 (Front end)	Maximum amplitude and symmetry of the oscilloscope display.	
4	DISCRIMINATOR	(A) 98.0MHz 1kHz,±75kHz dev 60dBμ(ANT input)	Connect a DC voltmeter between TP18 and TP19.	MONO 98.0MHz	L13	0V	(b)
5	VCO	(A) 98.0MHz 0 dev 60dBμ(ANT input)	Connect a 330kΩ resistor to TP14. Connect a frequency counter to the resistor via an AC voltmeter.	98.0MHz	VR2	19.00kHz	(c)
6	DISTORTION (STEREO)	(C) 98.0MHz 1kHz,±68.25kHz dev Selector:L or R 60dBμ(ANT input)	(B)	98.0MHz	T1 (Front end)	Minimum distortion. (L or R)	
7	TUNING LEVEL	(A) 98.0MHz 0 dev 18dBμ(ANT input)	—	98.0MHz	VR1	Adjust VR1 so that FL1(TUNED) goes off. Then, adjust VR1 and stop at the point where FL1(TUNED) goes on.	
AM SECTION		Keep the AM loop antenna installed. SELECTOR: AM					
(1)	BAND EDGE (1)	—	Connect a DC voltmeter between TP20(VT) and TP26(GND).	530kHz (531kHz)	L5	1.5V	(a)
(2)	BAND EDGE (2)	—	Connect a DC voltmeter between TP20(VT) and TP26(GND).	1610kHz (1602kHz)	TC4	8.0V	(a)

			Repeat alignments (1) and (2) several times.				
(3)	RF ALIGNMENT (1)	(D) 630kHz 400Hz,30% mod	(B)	630kHz	L3	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	RF ALIGNMENT (2)	(D) 1440kHz 400Hz,30% mod	(B)	1440kHz	TC2	Maximum amplitude and symmetry of the oscilloscope display.	
			Repeat alignments (3) and (4) several times.				
(5)	TUNING LEVEL	(A) 1000(999)kHz 0 dev 25dBμ(ANT input)	—	1000(999)kHz	VR4	Adjust VR4 so that FL1(TUNED) goes off. Then, adjust VR4 and stop at the point where FL1(TUNED) goes on.	

REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MF		Sauf en cas d'indications spéciales, régler chaque commutateur comme suit: SELECTEUR: FM MODE: FM MODE/AUTO					
1	BORD DE BANDE (1)	—	Relier un voltmètre CC entre les TP20(VT) et TP26(GND).	87,5MHz	L7 (Contrôle)	2,5V	(a)
2	BORD DE BANDE (2)	—	Relier un voltmètre CC entre les TP20(VT) et TP26(GND).	108,0MHz	TC1 (Contrôle)	8,0V	(a)
			Répéter les points 1 et 2 plusieurs fois.				
3	ALIGNEMENT HT	(A) 98,0MHz 1kHz,±75kHz dév	(B)	MONO 98,0MHz	L2.3 (Contrôle)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
4	DISCRIMINATEUR	(A) 98,0MHz 1kHz,±75kHz dév 60dBμ(Entrée ANT)	Relier un voltmètre CC entre les TP18 et TP19.	MONO 98,0MHz	L13	0V	(b)
5	VCO	(A) 98,0MHz 0 dév 60dBμ(Entrée ANT)	Relier une résistance de 330kΩ à TP14. Raccorder un compteur de fréquence à une résistance par l'intermédiaire d'un voltmètre CA.	98,0MHz	VR2	19,00kHz	(c)
6	DISTORSION (STEREO)	(C) 98,0MHz 1kHz,±68,25kHz dév Selection:L ou R 60dBμ(Entrée ANT)	(B)	98,0MHz	TI (Contrôle)	Distorsion minimale. (L ou R)	
7	NIVEAU D'ACCORDER	(A) 98,0MHz 0 dév 18dBμ(Entrée ANT)	—	98,0MHz	VR1	Ajuster VR1 que FL1(TUNED) est non allumé. Alors, ajuster VR1 et arrêter le mouvement de VR1 au moment où le FL1(TUNED)s'allume.	
SECTION MA		Laisser l'antenne bouche MA installée. SELECTEUR: AM					
(1)	BORD DE BANDE (1)	—	Relier un voltmètre CC entre les TP20(VT) et TP26(GND).	530kHz (531kHz)	L5	1,5V	(a)
(2)	BORD DE BANDE (2)	—	Relier un voltmètre CC entre les TP20(VT) et TP26(GND).	1610kHz (1602kHz)	TC4	8,0V	(a)
			Répéter les points (1) et (2) plusieurs fois.				
(3)	ALIGNEMENT HT (1)	(D) 630kHz 400Hz,30% mod	(B)	630kHz	L3	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(4)	ALIGNEMENT HT (2)	(D) 1440kHz 400Hz,30% mod	(B)	1440kHz	TC2	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
			Répéter les points (3) et (4) plusieurs fois.				
(5)	NIVEAU D'ACCORDER	(A) 1000(999)kHz 0 dév 25dBμ(Entrée ANT)	—	1000(999)kHz	VR4	Ajuster VR4 que FL1(TUNED) est non allumé. Alors, ajuster VR4 et arrêter le mouvement de VR4 au moment où le FL1(TUNED)s'allume.	

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW—EMPFANGSABTEILUNG Außer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen: SELECTOR: FM MODE:FM MODE/AUTO							
1	BANDKANTE (1)	—	Einen Gleichspannungs-messer zwischen TP20(VT) und TP26(GND) anschließen.	87,5MHz	L7 (Eingangs-stufe)	2,5V	(a)
2	BANDKANTE (2)	—	Einen Gleichspannungs-messer zwischen TP20(VT) und TP26(GND) anschließen.	108,0MHz	TC1 (Eingangs-stufe)	8,0V	(a)
Abstimmungen 1 und 2 mehrere Male wiederholen.							
3	EMPFANGS-BEREICH-ABSTIMMUNGEN	(A) 98,0MHz 1kHz.±75kHz Hub	(B)	MONO 98,0MHz	L2.3 (Eingangs-stufe)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
4	DISKRIMINATOR	(A) 98,0MHz 1kHz.±75kHz Hub 60dBµ(ANT-Eingang)	Einen Gleichspannungs-messer zwischen TP18 und TP19 anschließen.	MONO 98,0MHz	L13	0V	(b)
5	SPANNUNGS-GEREGELTER OSZILLATOR	(A) 98,0MHz 0 Hub 60dBµ(ANT-Eingang)	Einen 330kΩ Wider-standen zu TP14 anschließen. Einen Frequenzzähler über einen Wechselspannungs messer an den Wider-stand anschließen.	98,0MHz	VR2	19,00kHz	(c)
6	KLIRRFAKTOR (STEREO)	(C) 98,0MHz 1kHz.±68,25kHz Hub Wähler: L oder R 60dBµ(ANT-Eingang)	(B)	98,0MHz	T1 (Eingangs-stufe)	Minimal Klirrfaktor. (L oder R)	
7	ABSTIMM PEGEL	(A) 98,0MHz 0 Hub 18dBµ(ANT-Eingang)	—	98,0MHz	VR1	Den Pegel widerstand VR1 so einstellen, deß der FL1(TUNED)anzeiger nicht leuchtet. Dann der Pegel widerstand aufdrehen, und dem VR1 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	
MW—EMPFANGSABTEILUNG Die MW Rahmenantenne angebracht lassen. SELECTOR: AM							
(1)	BANDKANTE (1)	—	Einen Gleichspannungs-messer zwischen TP20(VT) und TP26(GND) anschließen.	530kHz (531kHz)	L5	1,5V	(a)
(2)	BANDKANTE (2)	—	Einen Gleichspannungs-messer zwischen TP20(VT) und TP26(GND) anschließen.	1610kHz (1602kHz)	TC4	8,0V	(a)
Abstimmungen (1) und (2) mehrere Male wiederholen.							
(3)	HF-ABGLEICH (1)	(D) 630kHz 400Hz.30% mod	(B)	630kHz	L3	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
(4)	HF-ABGLEICH (2)	(D) 1440kHz 400Hz.30% mod	(B)	1440kHz	TC2	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen (3) und (4) mehrere Male wiederholen.							
(5)	ABSTIMM PEGEL	(A) 1000(999)kHz 0 Hub 25dBµ(ANT-Eingang)	—	1000(999)kHz	VR4	Den Pegel widerstand VR4 so einstellen, deß der FL1(TUNED)anzeiger nicht leuchtet. Dann der Pegel widerstand aufdrehen, und dem VR4 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	

TUNER UNIT (X05-3290-10)

FRONT

TUNING / CHARACTER

FM SCAN DIRECT CLEAR EXECUTE 2=1 PROGRAM-2 PROGRAM-1 ADJUST

DOWN S25 S22 S18 S17 S16 S15 S14 S13
AM DIGIT
X05 B/4 ENTER AUTO/MANUAL
CHARACTER
UP PRESET A/B

(b) Discriminator
DC voltmeter

(a) Band edge
DC voltmeter

X05-3290-10 A/4
J25-5507-0 GCMK-81

CONTROL

DISPLAY

DISPLAY

SLEEP X05 D/4 POWER

FRONT END UNIT
(X86-1040-10)

X86-1040-10

T METER

S METER

AM RF

IF

MPX

POWER SUPPLY

P.T.

ORG
BLU
BLU

ORG
ORG
RED
RED
BLU
BLU

SWITCHED UNSWITCHED
400W MAX. 400W MAX.

WHT
RED
RED
RED

BLK

BLK

GND

75Ω LOOP ANTENNA
FM 300Ω
ANTENNA

OUTPUT

STATION
NAME AND PRESET 20
PRESET 12

SYSTEM
CONTROL

330KΩ resistor

AC voltmeter

(c) VCO : 19.00KHz

KT-76

Refer to the schematic diagram for the values of resistors and capacitors.

20

PC BOARD

FOIL SIDE VIEW

TUNER UNIT (X05-3290-10)

ADJUST PROGRAM-1 PROGRAM-2 EXECUTE 1±2 CLEAR DIRECT SCAN FM

DISPLAY

SLEEP
X05 D/4
POWER

DISPLAY

CONTROL

X05-3290-10 A/4

AUTO/MANOAL ENTER CHARACTER PRESET A/B

DIGIT

AM

X05 B/4

DOWN

UP

TUNING/CHARACTER

FRONT

(b) Discriminator

DC voltmeter

(a) Band edge

DC voltmeter

FRONT END UNIT (X86-1040-10)

P.T.

ORG
BLU
BLU

ORG
ORG
RED
RED
BLU
BLU

UNSWITCHED
400W MAX.

SWITCHED
400W MAX.

RED
RED

WHT

RED

BLK

RED

BLK

MPX

POWER SUPPLY

S METER

T METER

AM RF

I F

GND

X86-1040-10

KT-76

330KΩ resistor

AC voltmeter

(c)VCO : 19.00 KHz

SYSTEM CONTROL PRESET 20 STATION NAME AND PRESET 12 OUTPUT

LOOP ANTENNA 75Ω
FM 300Ω
ANTENNA

GND

Refer to the schematic diagram for the values of resistors and capacitors.

∗(X86-1040-10)

Transistor / IC legend (left column):

JA501
JC501
2SA733 (A)
2SA999
2SC1845
2SC1923
2SC945 (A)
2SD1302

2SD1266

2SA933S
2SC1740S

2SC2714

2SK364

2SK302

3SK131

AN7470

LA7910

CX7925B

LA1265

2SC3391
2SC3494

Device callouts:

Q1 2SK302 (Y, GR)
Q2 2SC2714 (O)
Q4,5 2SC2714 (R,O)
D1~3 KV1310A-3

Major blocks:

IC3 PLL FREQUENCY SYNTHESIZER
- SWALLOW COUNTER
- 1/4, 1/5 PRESCALER
- 1/2 PRESCALER
- AMP
- MAIN DIVIDER (16-BIT, PROGRAMMABLE)
- UP/DOWN COUNTER (18-BIT)
- SHIFT REGISTER (20-BIT)
- LATCH (19-BIT)
- PHASE COMPARATOR
- REFERENCE DIVIDER (14-BIT) PROGRAMMABLE
- OSC
- TIMING CONTROLLER
- PCB VOLTAGE GENERATOR

IC4 MICROPROCESSOR

FL1

IC FM/TUNI... — BUF, OSC, REG, RF, MIX, AGC, AM-IF, DET
LEVEL DIT, S CURVE, LED DRIVER, FM-IF, Q.D, VCC, GND

FM/AM SELECT Q19

Connectors: E1, CN1 (ANT, GND, VT), CN2 (GND, IF, +B, GND, OSC)

FM ANT 300Ω
75Ω GND
AM ANT

SYNC
VT 20
GND 26
GND 11
TEST 10

PRESET SELECT
CHANNEL SELECT
RESET CONT
FIP DRIVE / FIP CONT
TUNED DRIVE
STEREO DRIVE

Q41	E	C
12ch PRESET	2.7V	0V
20ch PRESET	0.6V	0V

KT-76 KENWOOD

IC1 : LA1265
IC2 : AN7470
IC3 : CX7925B
IC4 : CXP5016-196S

Q1 : 2SC1923(R,O)
Q8,9 : 2SD1302(S,T)
Q11,14,15,19,31,35
37,38,43,45 : 2SC945(A)(Q,P)
Q12 : 2SC1845(F,E)
Q16,32,33,36
39～42,46 : 2SA733(A)(Q,P)
Q34 : 2SA999(E,F)
Q44 : 2SD1266(Q,P)

D1,4,6～8,10~15,19
20,22~29,32 : 1SS133 or 1SS176
D3 : KV1236(Z2)
D21 : RD5.1ES(B) or HZS5.1N(B)
D51 : 1B4B41
D52 : RD13ES(B2) or HZS13N(B2)
D54~56,61 : DSM1A1
D57 : RD5.1ES(B2) or HZS5.1N(B2)

	TUNER UNIT	FRONT-END
JAPAN MADE	X05-3291-10,-21	X86-1040-10
SINGAPORE MADE	X05-3340-10,-21	W02-0699-05

TR1 : 2SK439
TR2,3 : 2SC3391
TR4 : 2SC3494
D1~3 : 1SV110

(X05-329✳-✳✳)(X05-334✳-✳✳)

DESTINATION	N❬	R22	R140	R141	R161	C40,41
K,P	0～10	12K	NO	NO	YES	0.022
U,M,UE	0~21	39K	YES	YES	NO	0.015

	C42,43	S31	S32,34	Q42	D15	J90
	NO	NO	NO	NO	NO	NO
	YES	YES	YES	YES	YES	YES

Q41

	E	C	B
12ch PRESET	2.7V	0V	6V
20ch PRESET	0.6V	0V	1.2V

Q42

	E	C	B
FM 100K, AM 10K	2.7V	0V	6V
FM 50K, AM 9K	0.6V	0V	1.2V

SIGNAL LINE
GND LINE
+B LINE
−B LINE

CAUTION: For continued safety, replace safety critical components only with manufacture's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before tha appliance is returned to the customer.

DC voltages are as measured with a high impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal). Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance pendant la réception d'un signal de programme FM (avec une force de signal de 60 dB à la borne ANT). Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser bei Empfang eines UKW-Signals (mit einer Feldstärke von 60 dB am Antennenanschluß) gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

KT-76 (K)

EXPLODED VIEW

TUNING/
CHARACTER

| UP | S26 | | DOWN | S27 |

★ SINGAPORE MADE

KT-76

PRESET A/B | S19
CHARACTER | S20
DIGIT | S21
PRESET SCAN | S22

AM (MW) | S24 | FM | S25

AUTO/MANUAL
(MONO) ENTER | CLEAR | DIRECT
S5	S6	S11	S12	S17	S18
S3	S4	S9	S10	S15	S16
S1	S2	S7	S8	S13	S14

PROGRAM PROGRAM EXECUTE
ADJUST 1 2 1&2

POWER S28 | SLEEP S29 | DISPLAY S30

A ⌀3x8 (Bi-Top)BLK : N89-3008-45
B ⌀3x8 (Bi-Top) : N89-3008-46
C ⌀3x8 (TP) : N09-1515-05
D ⌀4x8 (Bi-Top) : N99-4008-46
E ⌀3x19 STEPPED : N09-0292-05
F ⌀4x6 (Bi-Top) : N86-4006-46

Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

✻ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Telle ohne **Parts No.** werden nicht gellefert.

Refer to Parts List on page 29.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
			KT-76			
1	1A	✻	A01-1469-01	METALLIC CABINET		
3	2A	✻	A20-5150-02	PANEL		
4	2A	✻	A22-0664-03	SUB PANEL ASSY		
—			B46-0092-03	WARRANTY CARD	K	
—			B46-0094-03	WARRANTY CARD	UUE	
—			B46-0095-03	WARRANTY CARD	UUE	
—			B46-0121-03	WARRANTY CARD	P	
—		✻	B50-6606-00	INSTRUCTION MANUAL(ENGLISH)		
—		✻	B50-6607-00	INSTRUCTION MANUAL(FRENCH)	PM	
—		✻	B50-6608-00	INSTRUCTION MANUAL(SPANISH)	M	
—		✻	B50-6609-00	INSTRUCTION MANUAL(ARABIC)	M	
—			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
—			B58-0269-04	CAUTION CARD	K	
—			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
			B59-0092-00	SERVICE DIRECTORY	UUE	
8	1B		E03-0083-05	AC OUTLET		⚠
9	1C		E30-0812-05	AC POWER CORD	UMUE	⚠
9	1C		E30-0996-05	AC POWER CORD	KP	⚠
10	1A		E30-0505-05	AUDIO CORD		
—		✻	H01-7435-04	ITEM CARTON CASE		
—		✻	H10-3446-02	POLYSTYRENE FOAMED FIXTURE		
—			H25-0223-04	PROTECTION BAG (750X350X0.03)		
—			H25-0232-04	PROTECTION BAG (235X350X0.03)		
15	2B,2C		J02-0170-04	FOOT		
16	1C		J19-0626-12	ANTENNA HOLDER		
17	1A		J19-0875-03	ANTENNA HOLDER		
18	1C		J42-0083-05	POWER CORD BUSHING		⚠
20	2B	✻	K27-1721-04	KNOB (BUTTON) PRESET,DIGIT		
22	1B	✻	L01-7601-05	POWER TRANSFORMER	KP	⚠
22	1B	✻	L01-7604-05	POWER TRANSFORMER	UMUE	⚠
C	2B,2C		N09-1515-05	TAPPING SCREW (⌀3X8)		
E	1C		N09-0292-05	STEPPED SCREW (⌀3X19)		
26	1A		T90-0104-25	LOOP ANTENNA		
27	1A		T90-0132-05	T TYPE ANTENNA		
			Singapore made			
1	1A		A01-1484-02	METALLIC CABINET		
3	2A		A20-5150-02	PANEL		
4	2A		A22-0664-03	SUB PANEL ASSY		
—			B46-0092-03	WARRANTY CARD	K	
—			B46-0094-03	WARRANTY CARD	UUE	
—			B46-0095-03	WARRANTY CARD	UUE	
—			B46-0121-03	WARRANTY CARD	P	
—		✻	B50-6746-00	INSTRUCTION MANUAL(ENGLISH)		
—		✻	B50-6747-00	INSTRUCTION MANUAL(FRENCH)	PM	
—		✻	B50-6748-00	INSTRUCTION MANUAL(SPANISH)	M	
—		✻	B50-6749-00	INSTRUCTION MANUAL(ARABIC)	M	
—			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
—			B58-0269-04	CAUTION CARD	K	
—			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	

E: Scandinavia & Europe   H:Audio Club   K: USA   P: Canada
S: South Africa   T: England   U: PX(Far East, Hawaii)
UE : AAFES(Europe)   X: Australia   M: Other Areas

⚠ indicates safety critical components.

Left Page

✳ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Telle ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
—			B59-0092-00	SERVICE DIRECTORY	UUE	
⚠ 8	1B	.	E03-0083-05	AC OUTLET		
⚠ 9	1C		E30-0812-05	AC POWER CORD	UMUE	
⚠ 9	1C		E30-0996-05	AC POWER CORD	KP	
10	1A		E30-0505-05	AUDIO CORD		
—		✳	H01-7530-04	ITEM CARTON CASE		
—		✳	H10-3302-12	POLYSTYRENE FOAMED FIXTURE		
—			H25-0223-04	PROTECTION BAG (750X350X0.03)		
—			H25-0232-04	PROTECTION BAG (235X350X0.03)		
15	2B,2C		J02-0161-04	FOOT		
16	1C		J19-0564-05	ANTENNA HOLDER		
17	1A		J19-0875-03	ANTENNA HOLDER		
⚠ 18	1C		J42-0083-05	POWER CORD BUSHING		
20	2A		K27-1721-04	KNOB (BUTTON) PRESET,DIGIT		
⚠ 22	1B	✳	L01-7821-05	POWER TRANSFORMER	KP	
⚠ 22	1B	✳	L01-7824-05	POWER TRANSFORMER	UMUE	
C	2B,2C		N09-1515-05	TAPPING SCREW (∅3X8)		
E	1C		N09-0292-05	STEPPED SCREW (∅3X19)		
26	1A		T90-0104-25	LOOP ANTENNA		
27	1A		T90-0121-05	T TYPE ANTENNA		
TUNER UNIT (X05-3290-10)						
C1			C91-0769-05	CERAMIC 0.01UF M		
C7 ,8			CK45FF1H223Z	CERAMIC 0.022UF Z		
C11			C91-0769-05	CERAMIC 0.01UF M		
C12			CQ09FS1H391JY0	POLYSTY 390PF J		
C13 ,14			CK45FF1H223Z	CERAMIC 0.022UF Z		
C15			CE04KW1V100M	ELECTRO 10UF 35WV		
C16			CC45FSL1H101J	CERAMIC 100PF J		
C17			CE04KW1H4R7M	ELECTRO 4.7UF 50WV		
C18			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C19			CE04KW1H4R7M	ELECTRO 4.7UF 50WV		
C20			CK45FF1H223Z	CERAMIC 0.022UF Z		
C22			CK45FF1H223Z	CERAMIC 0.022UF Z		
C23 ,24			CK45FF1H103Z	CERAMIC 0.010UF Z		
C25			CF92FV1H153J	MF 0.015UF J		
C26			CE04KW1V100M	ELECTRO 10UF 35WV		
C27			CQ09FS1H471J	POLYSTY 470PF J		
C28			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C29			CE04KW1H3R3M	ELECTRO 3.3UF 50WV		
C30			CF92FV1H473J	MF 0.047UF J		
C31			CK45FB1H561K	CERAMIC 560PF K		
C32			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C35 ,36			CC45FSL1H151J	CERAMIC 150PF J		
C38 ,39			CE04KW1HR33M	ELECTRO 0.33UF 50WV		
C40 ,41			CF92FV1H153J	MF 0.015UF J	UMUE	
C40 ,41			CF92FV1H223J	MF 0.022UF J	KP	
C42 ,43			CF92FV1H432J	MF 4300PF J	UMUE	
C44			C91-0769-05	CERAMIC 0.01UF M		
C45			CE04KWOJ101M	ELECTRO 100UF 6.3WV		
C46			CK45FF1H103Z	CERAMIC 0.010UF Z		
C47			CE04KW1H010M	ELECTRO 1.0UF 50WV		

E: Scandinavia & Europe H:Audio Club K: USA P: Canada
S: South Africa T: England U: PX(Far East, Hawaii)
UE : AAFES(Europe) X: Australia M: Other Areas
⚠ indicates safety critical components.

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Right Page

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
C48			CK45FF1H473Z	CERAMIC 0.047UF Z		
C49			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C50			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C51			CK45FF1H103Z	CERAMIC 0.010UF Z		
C52			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C53			CK45FF1H103Z	CERAMIC 0.010UF Z		
C101			CK45FF1H103Z	CERAMIC 0.010UF Z		
C102-104			CK45FB1H102K	CERAMIC 1000PF K		
C105			CC45FSL1H560J	CERAMIC 56PF J		
C106			CC45FSL1H270J	CERAMIC 27PF J		
C107			CE04KW1V100M	ELECTRO 10UF 35WV		
C108			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C111			CE04KW1V100M	ELECTRO 10UF 35WV		
C113			C91-0757-05	CERAMIC 0.001UF K		
C118,119			C91-0757-05	CERAMIC 0.001UF K		
C120,121			CC45FSL1H221J	CERAMIC 220PF J		
C122			CK45FF1H473Z	CERAMIC 0.047UF Z		
C123,124			CC45FCH1H330J	CERAMIC 33PF J		
C150			CE04KW1C470M	ELECTRO 47UF 16WV		
C151-153			CK45FF1H103Z	CERAMIC 0.010UF Z		
C154			CE04KW1V102M	ELECTRO 1000UF 35WV		
C155			CE04KW1C471M	ELECTRO 470UF 16WV		
C156			CE04KW1E221M	ELECTRO 220UF 25WV		
C157			CE04KW1C221M	ELECTRO 220UF 16WV		
C158			CE04KW1V100M	ELECTRO 10UF 35WV		
C159			CK45FF1H103Z	CERAMIC 0.010UF Z		
C160			CE04KW1V100M	ELECTRO 10UF 35WV		
C161			C91-0769-05	CERAMIC 0.01UF M		
C163,164			CK45FF1H103Z	CERAMIC 0.010UF Z		
C165,166			CE04KW1E102M	ELECTRO 1000UF 25WV		
C167			CE04KWOJ102M	ELECTRO 1000UF 6.3WV		
C168			CE04KWOJ222M	ELECTRO 2200UF 6.3WV		
C169			CE04KW1V100M	ELECTRO 10UF 35WV		
C171			C90-1400-05	NP-ELEC 10UF 50WV		
C172			CK45F1H103Z	CERAMIC 0.010UF Z		
TC2			C05-0303-05	CERAMIC TRIMMER CAPACITOR(20PF		
TC4			C05-0303-05	CERAMIC TRIMMER CAPACITOR(20PF		
E1	1C		E20-0449-05	SCREW TERMINAL BOARD(4P)ANT		
E2	1B		E13-0217-05	PHONO JACK (2P) OUTPUT		
E3	1B		E11-0165-05	MINIATURE PHONE JACK(SYS CONT)		
CF1 ,2			L72-0140-05	CERAMIC FILTER		
CF3			L72-0099-05	CERAMIC FILTER		
CF4			L72-0096-05	CERAMIC FILTER		
L3			L31-0509-05	MW-RF COIL		
L5			L32-0277-15	MW OSCILLATING COIL		
L7			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)		
L8 ,9			L40-1092-14	SMALL FIXED INDUCTOR(1.0UH,M)		
L12			L30-0362-05	AM IFT		
L13		✳	L30-0439-15	FM IFT		
X1			L77-0573-05	CRYSTAL RESONATOR(4.5MHZ)		
X2		✳	L77-1118-05	CRYSTAL RESONATOR		
R153			RS14DB3A101J	FL-PROOF RS 100 J 1W		
R154			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		

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R155~157			RD14AB2E101J	FL-PROOF RD 100 J 1/4W		
R161			R92-0173-05	RC 2.2M M 1/2W	KP	
R164			RD14AB2E330J	FL-PROOF RD 33 J 1/4W		
R165,166			RS14DB3D122J	FL-PROOF RS 1.2K J 2W		
VR1			R12-3098-05	TRIMMING POT. (33K) FM TUNE		
VR2			R12-1069-05	TRIMMING POT. (4.7K)VCO		
VR4			R12-3096-05	TRIMMING POT. (10K) AM TUNE		
⚠ K1			S51-1036-05	MAGNETIC RELAY		
S1 ~22	2B,2C		S40-1064-05	PUSH SWITCH (1-0,ENTER,PROG)		
S24 ~30	1B,2C		S40-1064-05	PUSH SWITCH (FM,TUN,POWER)		
S31 ~33	1B,1C		S31-2075-05	SLIDE SWITCH(60HZ,AC10V)	UMUE	
S33	1B		S31-2075-05	SLIDE SWITCH(PRESET)	KP	
⚠ S34	1B		S31-2115-05	SLIDE SWITCH	UMUE	
D1			1SS133	DIODE		
D1			1SS176	DIODE		
D3			KV1236(Z2)	VARIABLE CAPACITANCE DIODE		
D4 ~8			1SS133	DIODE		
D4 ~8			1SS176	DIODE		
D10 ~14			1SS133	DIODE	KP	
D10 ~14			1SS176	DIODE	KP	
D10 ~15			1SS133	DIODE	UMUE	
D10 ~15			1SS176	DIODE	UMUE	
D19 ,20			1SS133	DIODE		
D19 ,20			1SS176	DIODE		
D21			HZS5.1N(B)	ZENER DIODE		
D21			RD5.1ES(B)	ZENER DIODE		
D22 ~29			1SS133	DIODE		
D22 ~29			1SS176	DIODE		
D32			1SS133	DIODE		
D32			1SS176	DIODE		
D51			1B4B41	DIODE		
D52			HZS13N(B2)	ZENER DIODE		
D52			RD13ES(B2)	ZENER DIODE		
D54 ~56			DSM1A1	DIODE		
D57			HZS5.1N(B2)	ZENER DIODE		
D57			RD5.1ES(B2)	ZENER DIODE		
D59 ,60			1SS133	DIODE		
D59 ,60			1SS176	DIODE		
D61			DSM1A1	DIODE		
FL1	1B	✳	FIP12PM7	FLUORESCENT INDICATOR TUBE		
IC1			LA1265	IC(FM/AM TUNER)		
IC2			AN7470	IC(FM MPX)		
IC3		✳	CX7925B	IC(FREQUENCY SYNTHESIZER PLL)		
IC4		✳	CXP5016-196S	IC(MICROPROCESSOR)		
Q1			2SC1923(R,O)	TRANSISTOR		
Q8 ,9			2SD1302(S,T)	TRANSISTOR		
Q11			2SC945(A)(Q,P)	TRANSISTOR		
Q11 ~15			2SC1740S(Q,R)	TRANSISTOR		
Q12			2SC1845(F,E)	TRANSISTOR		
Q14 ,15			2SC945(A)(Q,P)	TRANSISTOR		
Q16			2SA733(A)(Q,P)	TRANSISTOR		
Q16			2SA933S(Q,R)	TRANSISTOR		
Q19			2SC1740S(Q,R)	TRANSISTOR		

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C48			CK45FF1H473Z	CERAMIC	0.047UF	Z		
C49			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C50			CE04LW1HR47M	ELECTRO	0.47UF	50WV		
C51			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C52			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C53			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C101			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C102-104			CK45FB1H102K	CERAMIC	1000PF	K		
C105			CC45FSL1H560J	CERAMIC	56PF	J		
C106			CC45FSL1H270J	CERAMIC	27PF	J		
C107			CE04LW1V100M	ELECTRO	10UF	35WV		
C108			CE04LW1HR47M	ELECTRO	0.47UF	50WV		
C111			CE04LW1V100M	ELECTRO	10UF	35WV		
C113			C91-0757-05	CERAMIC	0.001UF	K		
C118,119			C91-0757-05	CERAMIC	0.001UF	K		
C120,121			CC45FSL1H221J	CERAMIC	220PF	J		
C122			CK45FF1H473Z	CERAMIC	0.047UF	Z		
C123,124			CC45FCH1H330J	CERAMIC	33PF	J		
C150			CE04LW1C470M	ELECTRO	47UF	16WV		
C151-153			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C154		✕	CE04EW1V102M	ELECTRO	1000UF	35WV		
C155		✕	CE04EW1C471M	ELECTRO	470UF	16WV		
C156		✕	CE04EW1E221M	ELECTRO	220UF	25WV		
C157			CE04LW1C221M	ELECTRO	220UF	16WV		
C158			CE04LW1V100M	ELECTRO	10UF	35WV		
C159			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C160			CE04LW1V100M	ELECTRO	10UF	35WV		
C161			C91-0769-05	CERAMIC	0.01UF	M		
C163,164			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C165,166		✕	CE04EW1E102M	ELECTRO	1000UF	25WV		
C167		✕	CE04EW0J102M	ELECTRO	1000UF	6.3WV		
C168		✕	CE04EW0J222M	ELECTRO	2200UF	6.3WV		
C169			CE04LW1V100M	ELECTRO	10UF	35WV		
C171			C90-1400-05	NP-ELEC	10UF	50WV		
C172			CK45F1H103Z	CERAMIC	0.010UF	Z		
TC2			C05-0303-05	CERAMIC TRIMMER CAPACITOR(20PF				
TC4			C05-0303-05	CERAMIC TRIMMER CAPACITOR(20PF				
E1	1C		E20-0449-05	SCREW TERMINAL BOARD(4P)ANT				
E2	1B		E13-0217-05	PHONO JACK (2P) OUTPUT				
E3	1B		E11-0165-05	MINIATURE PHONE JACK(SYS CONT)				
CF1 ,2			L72-0140-05	CERAMIC FILTER				
CF3			L72-0099-05	CERAMIC FILTER				
CF4			L72-0096-05	CERAMIC FILTER				
L3			L31-0509-05	MW-RF COIL				
L5			L32-0277-15	MW OSCILLATING COIL				
L7			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)				
L8 ,9			L40-1092-14	SMALL FIXED INDUCTOR(1.0UH,M)				
L12			L30-0362-05	AM IFT				
L13			L30-0439-15	FM IFT				
X1			L77-0573-05	CRYSTAL RESONATOR(4.5MHZ)				
X2			L77-1118-05	CRYSTAL RESONATOR				
R153			RS14KB3A101J	FL-PROOF RS 100	J	1W		
R154-157			RD14GB2E101J	FL-PROOF RD 100	J	1/4W		

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Q31			2SC1740S(Q,R)	TRANSISTOR		
Q31			2SC945(A)(Q,P)	TRANSISTOR		
Q32 ,33			2SA733(A)(Q,P)	TRANSISTOR		
Q32 ,33			2SA933S(Q,R)	TRANSISTOR		
Q34			2SA999(E,F)	TRANSISTOR		
Q35			2SC1740S(Q,R)	TRANSISTOR		
Q35			2SC945(A)(Q,P)	TRANSISTOR		
Q36			2SA733(A)(Q,P)	TRANSISTOR		
Q36			2SA933S(Q,R)	TRANSISTOR		
Q37 ,38			2SC1740S(Q,R)	TRANSISTOR		
Q37 ,38			2SC945(A)(Q,P)	TRANSISTOR		
Q39 --41			2SA733(A)(Q,P)	TRANSISTOR	KP	
Q39 --41			2SA933S(Q,R)	TRANSISTOR	KP	
Q39 --42			2SA733(A)(Q,P)	TRANSISTOR	UMUE	
Q39 --42			2SA933S(Q,R)	TRANSISTOR	UMUE	
Q43			2SC1740S(Q,R)	TRANSISTOR		
Q43			2SC945(A)(Q,P)	TRANSISTOR		
Q44			2SD1266(Q,P)	TRANSISTOR		
Q45			2SC1740S(Q,R)	TRANSISTOR		
Q45			2SC945(A)(Q,P)	TRANSISTOR		
Q46			2SA733(A)(Q,P)	TRANSISTOR		
Q46			2SA933S(Q,R)	TRANSISTOR		
35	1C		W02-0699-05	FM FRONT-END ASSY		
FRONT END UNIT (X86-1040-10)						
C1		*	CC41FSL1H060D	CYLND CHIP C 6.0PF　　D		
C2			C93-0012-05	CYLND CHIP C 0.01UF　M		
C3		*	CC41FSL1H100D	CYLND CHIP C 10PF　　D		
C4			C93-0012-05	CYLND CHIP C 0.01UF　M		
C5			CK41FB1H221K	CYLND CHIP C 220PF　　K		
C6		*	CC41FSL1H070D	CYLND CHIP C 7.0PF　　D		
C8			CC41FSL1H020C	CYLND CHIP C 2.0PF　　C		
C9			CK41FB1H221K	CYLND CHIP C 220PF　　K		
C10			C93-0012-05	CYLND CHIP C 0.01UF　M		
C11		*	CC41FSL1H080D	CYLND CHIP C 8.0PF　　D		
C12		*	CC41FSL1H010C	CYLND CHIP C 1.0PF　　C		
C14			C93-0012-05	CYLND CHIP C 0.01UF　M		
C16		*	CC41FSL1H080D	CYLND CHIP C 8.0PF　　D		
C17			CC41FSL1H330J	CYLND CHIP C 33PF　　J		
C18		*	CC41FSL1H150J	CYLND CHIP C 15PF　　J		
C19		*	CC41FSL1H010C	CYLND CHIP C 1.0PF　　C		
C20			CK41FY1E102M	CYLND CHIP C 1000PF　M		
C21		*	CC41FSL1H470J	CYLND CHIP C 47PF　　J		
TC1			C05-0302-05	CERAMIC TRIMMER CAPACITOR(11PF		
L1		*	L31-0551-05	FM-RF COIL		
L2		*	L31-0552-05	FM-RF COIL		
L3		*	L31-0553-05	FM-RF COIL		
L4			L40-1092-16	SMALL FIXED INDUCTOR(1UH,M)		
L7			L32-0318-05	FM OSCILLATING COIL		
T1		*	L30-0427-15	FM IFT		
-			R92-0338-05	CLYND CHIP R 0 OHM		
-			R92-0350-05	JUMPER WIRE (RESISTOR TYPE)		
R1 ,2			RD41FB2B473J	CYLND CHIP R 47K　　J 1/8W		
R3		*	RD41FB2B470J	CYLND CHIP R 47　　J 1/8W		

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SPECIFICATIONS

FM Tuner Section

Tuning frequency range .... 87.5 MHz – 108 MHz
Antenna impedance .... 300 ohms balanced
                                            75 ohms unbalanced

Sensitivity
Usable sensitivity (IHF): MONO ...... 0.95 μV (10.8 dBf)
50 dB quieting sensitivity (IHF)
  Mono: .... 3 μV (14.7 dBf)
  Stereo: .... 49 μV (39.0 dBf)
Total harmonic distorition
Mono: (75 kHz Dev.) 100 Hz .... 0.4 %
  1,000 Hz .... 0.3 %
  50 Hz – 10,000 Hz .... 0.5 %
Stereo: (75 kHz Dev.) 100 Hz .... 0.5 %
  1,000 Hz .... 0.3 %
  50 Hz – 10,000 Hz .... 0.7 %
Signal-to-Noise ratio
Mono: (75 kHz Dev.) 65 dBf input... 76 dB
                       85 dBf input... 78 dB
Stereo: (75 kHz Dev.) 65 dBf input . 73 dB
                         85 dBf input . 75 dB
Capture ratio .... 1.2 dB
Alternate channel selectivity
IHF: ±400 kHz .... 50 dB
Stereo separation
  1,000 Hz .... 40 dB
  50 Hz – 10,000 Hz .... 35 dB
Frequency response
  30 Hz – 15,000 Hz .... +0.5 dB, –2 dB
Image rejection ratio (98 MHz) .... 50 dB
IF rejection ratio (98 MHz) .... 95 dB
Spurious rejection ratio (98 MHz) ..... 80 dB

AM suppression ratio .... 70 dB
Sub-carrier suppression ratio .... 37 dB
Output level/impedance
  FM: 1,000 Hz, 100 % Dev. (fixed) .... 0.6 V/3.3 kohms

AM Tuner Section

Tuning frequency range .... 531 kHz – 1,602 kHz
                                            (9 kHz step)
                                            530 kHz – 1,610 kHz
                                            (10 kHz step)
Usable sensitivity .... 14 μV, 400 μV/m
Signal-to-Noise ratio
  (30 % Mod; 1 mV input .... 50 dB
Total harmonic distortion .... 0.5 %
Image rejection ratio .... 40 dB
IF rejection ratio .... 50 dB
Selectivity (IHF) .... 25 dB
Output level/impedance
  (400 Hz, 30 % mod) .... 0.18V/3.3 kohms

General

Power requirements .... 120 V, 60 Hz (U.S.A. and
                                            Canada models)
                                            110 – 120 V/220 – 240 V,
                                            50/60 Hz (Switchable)
Power consumption .... 12 W
Dimensions .... W: 420 mm (16-9/16")
                                            H: 74 mm (2-15/16")
                                            D: 267 mm (10-1/2")
Weight (Net) .... 2.8 kg (6.2 lb)

Note: ──
We follow a policy of continuous advancements in development. For this reason specifications may be changed without notice.